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ABSTRACT

The conference brought Southern state and local leaders together to discuss ways to revitalize depressed rural areas and to improve citizens' quality of life. Papers discussed: (1) goals for rural educational improvement; (2) human resource barriers to community and economic development in the South; (3) survey results indicating that Alabama engineering schools are not sufficiently funded to provide the programs needed for economic growth in the state; (4) U.S. industry in transition and its need for a skilled work force; (5) partnerships among business and industry, schools, and government to combat "workforce illiteracy"; (6) strengthening the 2-year college's role in economic development; (7) fostering economic development and entrepreneurship through economic education in grades K-12; (8) the Alabama Governor's Rural Development Initiative projects; (9) trends in Alabama's recent economic progress; (10) trends in rural Tennessee's economic development, jobs, and education; (11) projects and publications of the Southern Rural Development Center linking education and economic development; (12) a regional approach to rural economic development; (13) programs of the Tennessee Valley Authority's Skills Development Department; (14) the role of federal legislation, the Cooperative Extension System, and the U.S. Department of Agriculture in rural development; and (15) the role of education in economic development. (SV)

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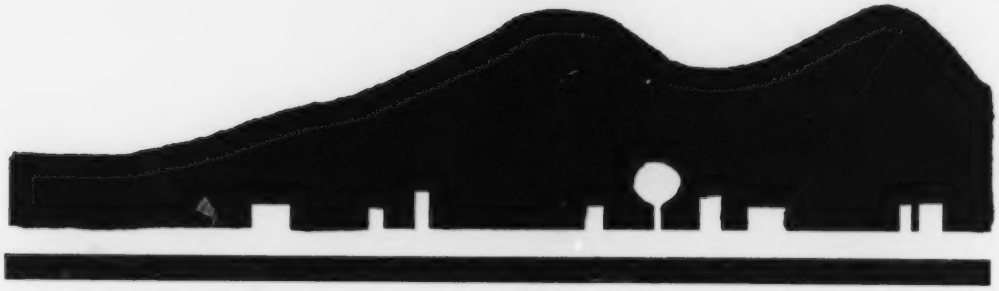
"TRAINING AND JOBS: KEYS TO RURAL ECONOMIC DEVELOPMENT"



A Regional Rural Revitalization Conference

APRIL 5-6, 1990

MARRIOTT HOTEL
Huntsville, Alabama

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"TRAINING AND JOBS:
KEYS TO
RURAL ECONOMIC DEVELOPMENT"

Sponsored by

ALABAMA A&M UNIVERSITY

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Table of Contents

Purpose of the Conference 1

Training and Jobs: Keys to Rural Economic Development 1

Investing in Human Resource Development 5

Alabama Industrial Council on Engineering Education (AICEE) 10

U.S. Industry in Transition 16

Partnerships to Enhance Workforce Literacy 17

Strengthening the Two-Year College's Role in Economic Development 20

The Crucial Role of Economic Education in Economic Development 22

Governor Hunt's Rural Development Initiative
"Accessing and Leveraging Available Resources 30

Basic Trends in Alabama's Recent Economic Progress 34

A Local Development Board's Perspective 37

Rural Tennessee - What's Happening Jobs-Education-Economic Development 38

Southern Rural Development Center Links Education and Economic Development 44

The Regional Perspective to Rural Economic Development 48

Rural Growth Through Skills Development 51

The Linkages Between Education and Training and Economic Development
From the Federal Perspective 56

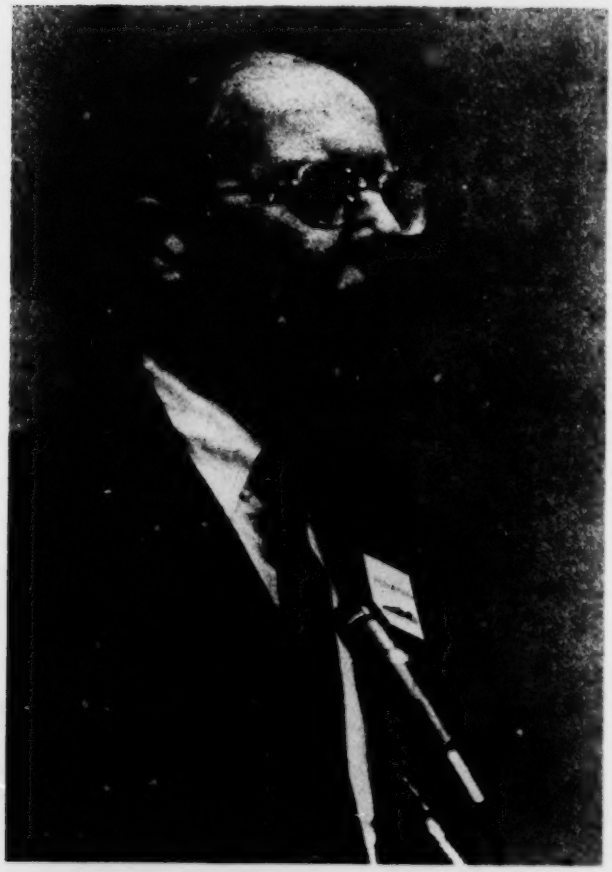
The Role of Education in Economic Development: A Strategic Approach 60

Purpose of the Conference

Dr. James I. Dawson
Administrator, 1890 CEP
Alabama A&M University

Each year the Alabama Cooperative Extension System and cosponsoring agencies conduct a Rural Revitalization Conference. As many of you know, rural revitalization is one of the national priorities of the United States Department of Agriculture. Because of rural-to-urban migration, a highly significant number of rural areas have become depressed. Therefore, it is incumbent upon appropriate leadership to determine ways and means of revitalizing rural remote areas in an attempt to reverse migration from these communities. One way to do this is to bring leaders together, such as we have today, to dialogue or discuss ways and means of facilitating community improvements that will make rural depressed areas more attractive and improve the quality of life of citizens.

Ladies and gentlemen, that is the major thrust of this conference. We hope that each of us, during small and large group discussions, will give and receive information that can be used to facilitate the community development process at the local, state, regional, and national level.



Training and Jobs: Keys to Rural Economic Development

William R. Winter
Chairman of the Commission on the
Future of the South

The message which I bring to you today is neither original nor profound. It is simply a restatement of what I think is a fundamental premise about the challenge which confronts us in the rural South. That premise, reduced to its most elementary and essential component, is that if we are to achieve economic parity in our region, we must first achieve educational parity.

In spite of many recent well-meaning efforts, the hard fact of the matter is that we still have a long way to go in terms of both access to and the quality of the kind of educational programs that will make us truly competitive here in this part of the country. To our credit, we are now at least recognizing that we have major deficiencies and we are beginning to do something about them. This of itself is reassuring.

For too long, going back to the days when I was growing up on a hill farm in North Mississippi, we did not put much stock in formal training. In the little one-room school where I started out, most students did not expect to go beyond the sixth grade. In fact, that was as far as they could go. If they chose to go further, they did so by paying tuition to attend a school in another district. The result was that not many finished high school.

That did not make so much difference in that fairly simple agricultural economy of those days. Formal skills were not required in most rural jobs. But those days, like the Old South itself, are gone with the wind. Still their impact continues to hold us back. This is what the Report of the Commission on the Future of the South is talking about. This is what the Halfway Home report has to say:

> In the South's long, even commendable, journey of progress, too many are left behind with education and skills which better prepare them to function in Henry Grady's Atlanta of 1886 than in Andrew Young's of today. They can read the ripeness of a tomato or the sky's forecast of rain, but not the directions for installing new machinery.
>
> Twenty years ago, when the national unemployment rate was near four percent, people with grade school educations could still find jobs. Today, the will to work must be matched with the skill to work. For all their struggle to hold on to vanishing jobs, some of our citizens have settled into a quicksand of poverty at the very bottom of southern society.
>
> [These] are old mistakes and problems we need not pass along. Other self-proclaimed "New Souths" have dragged behind them like long, old chains the inevitable outcomes of the plantation system, secession and reconstruction, sharecropping, low-wage factories, and segregation. Decades after old economic systems have vanished, their high human cost remains.

Now we are called upon to play catch up. We are confronted not just with competition from within the South but from the whole global economy. The recent events in Eastern Europe, the prospect of a unified Germany, the consolidation of economic forces in Western Europe, the continued productive output of countries like Japan, South Korea, Singapore, Thailand and China all are compelling factors that we have to face.

Because we have put off coming to grips with problems in education, human relations and equity in the work force, we have to do more than we have ever been willing or able to do before to close the gap.

I had some of these problems brought vividly home to me shortly after I was inaugurated as Governor in 1980. The director of our Department of Economic Development called me one day and told me that a major electronics company was preparing to announce its decision to locate a huge high-tech, high-skill plant in a Mississippi community. I, of course, was elated with this good news.

A short time later this same official called again. This time the news was not so good. I was informed that the company had changed its mind. The plant was not coming to Mississippi. My reaction was naturally to find out why. Our Economic Development director and I made an appointment with the company's CEO and flew to Chicago to see him.

"What was the reason," I asked him, "your plant is not being built in Mississippi?"

His response was courteous but candid. Without beating around the bush, he told me that even though his company liked my state very much, had received excellent cooperation and really wanted to locate there, the plain fact was that in their opinion we could not supply them with the trained and educated employees that they needed. And besides that, he added, the school system in that particular community was not one that he thought could turn out properly educated graduates.

That was a case that we knew about when we lost a major plant because of an inadequately trained labor force. No one knows how many others we lost for the same reason but who simply did not tell us.

That brings me to discuss what we are going to do about this situation that is robbing our region and especially our rural areas of the chances to be competitive. It is an unhappy fact that as long as we have so many undereducated and undertrained people, our region is going to be poorer than the rest of the country. Poorly educated people translate into poor people. Education is the only thing that will break the cycle of poverty.

We put a measuring stick on this in Mississippi recently. This is what we found. We compared county-by-county the relationship between the median number of years of school completed and per capita income. Here are the results:

The county with the highest number of years of school completed by its citizens was also the county with the highest per capita income. On the other hand, the county with the lowest number of years of school completed was the county with the lowest per capita income. And in between there was a corresponding relationship between almost every other county. Education and per capita income go along together.

Now that more of us understand this fundamental fact, I think it is fairly easy to predict what our first priority must be. It is to establish some clear cut goals across the region that will achieve the desired results in some definite and reasonable timeframe. Among these goals are the following:

1) To increase the graduation rate to at least 90 percent by the year 2000.

2) To close the gap in the graduation rates between minority and non-minority students.

3) To strengthen math and science education in ways that will produce more proficient graduates and increase by 50 percent the number of math and science teachers.

4) To produce high school graduates who have a broad enough base of knowledge that they can adapt to the changing needs of the work force.

5) To produce graduates who have the capacity to think critically and communicate effectively.

6) To increase the coordination between secondary schools, the community colleges and the senior colleges and universities in ways that encourage maximum student achievement and

that provide support for marginal achievers.

7) To foster an atmosphere and create a system that enhances lifelong learning.

What we are really talking about is flexibility. Most people will be obliged in this rapidly moving world to change jobs and careers several times in the course of their working lives. This is going to be true even in the rural areas of the South. The old jobs are not coming back. The new jobs are going to be radically different.

For example, the opportunities afforded by the advent of the new telecommunications systems means that people can live in relatively remote areas and still be linked to the rest of the world. One can now sit in his home or office in the most remote hamlet in Alabama or Mississippi and by use of the latest developments in technology carry on the most complex and instantaneous exchange of information with people thousands of miles away.

The new economic development initiatives arising out of the production of new products and new services boggle the mind. Recreation and tourism, on the one hand, are combining with space-age industry on the other hand in North Alabama and in Northeast Mississippi to produce incredible opportunities for those with the skills to take advantage of them. This process is not going to be less important in the future. In fact, it is the future of the rural South.

To capture it will require more resourcefulness than we have been willing to put forth before. In addition to making the investments essential to develop a superior system of education, there has to be the capacity to recognize the value of local resources. This means a new role for institutions of higher education such as the ones represented at this conference in helping to identify new products, new crops and new processes and to reexamine and redevelop old ones.

It also means a new vision for community leaders. We can't stay in the same ruts doing things the same way. The communities that will prevail and prosper are going to be the ones who see the opportunities that arise out of change - who are not intimidated by new challenges but who welcome them as avenues to a better and more meaningful existence. I am convinced that out of the commitment and wisdom represented in a meeting like this a brighter, more productive and more dynamic region will emerge.

Investing in Human Resource Development

Charles J. Law, Jr.
Executive Director
Southeastern Educational
Improvement Laboratory
Research Triangle Park, NC

Introduction

For purposes of this presentation, I am taking the prerogative of defining my own terms. Many people are talking about "human capital." You will hear those words a lot at this conference and elsewhere. "Human capital" is a good term and I realize it's in vogue, particularly in your areas of responsibility. However, I choose to emphasize the individual within this concept. I grow increasingly uneasy with the term "human capital" because it connotes the idea of some people being used by others in the development and expenditure of "human capital" for the good of society, the state, the region, etc. Therefore, I choose to talk about human resource development. I believe this to be a subtle, but significant, difference that influences where one stands on key problems and issues.

The Southeastern Educational Improvement Laboratory is one of nine such regional laboratories in the country. Our task is to improve elementary and secondary education (Prekindergarten-12th grade) in the Southeast. Our region includes the states of Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina.

Our work is based on the following premises:

- The education issues facing each of the southeastern states are similar and lend themselves to cooperative solutions.
- Educational issues should be studied in light of their social, economic, political, and cultural contexts.
- Many of the intellectual resources needed to resolve these issues can be found in the region.
- A brokerage model that uses these resources is more effective than building a single new regional research capacity.
- The informed development of policy is an effective and efficient means of improving education.
- A major difficulty in utilizing education research is the gap between the practitioner and the researcher.
- Educational practitioners will use the results of research and analysis if such results are presented in a practical, understandable, and timely manner. Practitioners are most likely to use results from research that they request.
- Each state has research and development activities under way that, if shared, could significantly reduce duplication and expand the participating states' knowledge and experience bases.
- An effective means for identifying issues and providing assistance to practitioners is through using established governance and delivery systems, while continuing constant efforts to improve those mechanisms.
- Direct control (governance) of the organization by its owners will prevent its isolation from real problems and keep the organization directly related to educational practitioners and their needs.

In short, we believe that "some of us may be smarter than the rest of us but none of us is smarter than all of us."

I want to give credit for much of the content of my presentation to Dr. Lionel J. (Beau) Beaulieu of the University of Florida. I am relying heavily upon the work he performed for the Southern Rural Development Center that resulted in the publication Building Partnerships for People: Addressing the Rural South's Human Capital Needs. Copies of that document are available here and from the Southern Rural Development Center. I recommend securing a copy as documentation and support of this paper.

What and Where are the Most Serious Human Resource Barriers to Community and Economic Development in the South?

Beaulieu's work focused on the rural South because that is where the greatest problem is. He reports that only a few years ago, the rural South was seen as a mecca of economic and social progress. Why is this no longer the case?

- Slower Population Growth--Although the region's nonmetropolitan areas did continue to gain in population during the 1980-86 period, its 5.4 percentage points increase was two-thirds less than that of its metropolitan counterparts.

- Source of Income--A large segment of the rural South remains heavily dependent upon traditional, goods-producing industries, such as manufacturing, agriculture, and mining, the very industries that have suffered appreciable hardship in recent years. For example, nearly 32 percent of the region's nonmetropolitan counties draw their principal income from manufacturing activities.

Five of every ten nonmetro counties in the South have economies that are intimately tied to goods-producing activities--activities that have stifled the economic vitality of many of the South's rural localities during the past decade.

- Employment Factors--The strength of the South's metropolitan economy has masked the difficulties being experienced in many of our rural counties. Unemployment has been much higher in the nonmetro South than in the urban areas throughout the 1980s. Underemployment also continues to be a problem.

- Poverty Levels - Nationally, poverty has swelled by 22 percent in nonmetropolitan counties since 1979. However, 16.1 percent of the South's residents were living in poverty in 1986, compared with 13.6 percent for the nation. At that same time, 22.4 percent of persons in the South's nonmetro counties were living in poverty. And, one in five families in the rural South fell below the poverty line. Unlike the figures for the metro South, these percentages have been steadily increasing since the latter part of the seventies.

The face of poverty becomes much clearer when examined by race and sex. Nearly 44 percent of rural black persons in the South lived in poverty in 1986. When black females headed a household, the poverty rate jumped to nearly 66 percent. And, when children under 18 were present in those households, 78.1 percent lived below the poverty line.

In summary, our rural sector is characterized by:

- A de-escalated rate of population growth.
- Overdependence on a stagnating goods-producing economy.
- High rates of unemployment and underemployment.
- Low income and high rates of poverty.

Is Human Resource Development the Answer for Rural Areas?

Some experts argue that our rural areas can be revitalized by the diversification of their economies, the growth of small business enterprises, the development of entrepreneurial activities, and the recruitment of service-producing and high tech industries.

These are obvious options that warrant serious consideration. However, there are some important work-place facts and cautions that must accompany these options.

- New jobs are knowledge-intensive.
- Manufacturing is changing.
- By 1990, 3 of every 4 new jobs will require high school graduation and beyond. It should also be noted that 90 percent of these jobs will be in the service sector.
- By the year 2000, only 1 in 4 new jobs will be low-skilled.
- By that same year, the median years of education needed will be 13.5.
- Middle-skilled jobs of today will be low-skilled jobs of the future.

This demand for a highly skilled work force is the result of several factors:

1. Technological advancements are upgrading the work associated with most jobs.
2. There is an accelerated growth in highly skilled occupational categories.
3. An increasing number of companies are embracing the Japanese-style work teams.

Status of the Rural South's Human Resources

The human resource problems that vex the nation are most evident in the rural South. This is home to nearly half of all U.S. nonmetro residents. And, the human capital resource deficiency factors, i.e., poverty, illiteracy, and low educational achievement, are largely concentrated in the rural South.

Five of the top ten states with the poorest graduation rate are in the South:

State	Percentage	Rank
Florida	41.4%	(1)
Louisiana	39.9%	(2)
Georgia	37.4%	(4)
Mississippi	35.2%	(7)
Texas	34.9%	(8)

Exacerbating the plight of our rural residents is the fact that high school graduation rates are generally lower in rural areas (and for blacks) than in urban areas.

Individuals who leave high school prior to graduation commit themselves to a life of economic hardship; they simply cannot meet the needs of the up-and-coming industries in the region that are demanding a better educated, more adaptive, flexible, and multiskilled labor force. Even more frightening is the real chance that the school dropout will become permanently displaced from the mainstream of the economy.

Then there is the problem of functional illiteracy of our adult population (defined in this case as persons who have completed 8 years or less of formal education). In the South in 1980:

1. One in 4 persons above 25 years of age were classified as functionally illiterate.

2. Among blacks, the figure was 2 in 5.

3. The nonmetro rate was 71 percent higher than that uncovered in metro areas.

Last but not least, there is the damaging factor of our net out-migration rates. There is evidence that our better educated youth--the very people with whom the hope of reinvigorating the rural economy rests--are deciding to leave their rural homesteads. In both 1985-86 and 1986-87, net out-migration from the South's nonmetropolitan areas was greatest among the better educated persons 25 years of age and above.

Partnerships - A Key Strategy

The clustering of illiteracy in certain areas in our region strongly suggests that there are illiterate communities--groups of people living in environments in which literacy plays only a marginal role and where its acquisition is neither encouraged nor supported. As long as such communities exist, illiteracy rates will continue to soar, no matter how many national literacy campaigns are waged.

It is more than a question of teaching people to read and write--it is a question of helping them reexamine their values--community by community. These key values have to do with family, community, and schools.

• *Families* -- Children learn beliefs, values, and behaviors in the family context. Some are now calling this the "curriculum of the family." Research shows that the capacity for children to adapt to a changing world during their working lives is provided by the family. And the evidence all points in the same direction: the most important way in which parents can contribute to the education of their children is by what they do at home.

Typically, children who perform better in school are the children of parents who read to them when they are young, who supervise their homework by making sure they have a quiet place to study, who talk with them about school and everyday events, and who express an interest in their progress.

• *The School System* -- Its success is determined by family and community commitment to its educational mission. Schools are a reflection of the community's prevailing attitudes and expectations. Enriching educational experiences for students requires schools, families, and communities working in tandem. Increasingly, it should be recognized that shaping the goals of the school system is a community and family obligation.

• *Communities* -- This hallowed institution to which we give so much lip service and upon which we seem so often to turn our backs offers an important laboratory for enhancing the experiential base of our youth. It is here that business and government leaders can be instrumental in facilitating parental involvement in the school system.

IF families and communities demand an active role in deciding the educational agenda of the schools and see academic excellence as an intimate part of their value systems, THEN substantive improvement in the human capital reserves of the community will evolve over the long term.

What Kinds of Investment Will Make a Difference?

Historically, when faced with these human resource development problems, those who are committed to improvement through improved elementary and secondary education programs have responded by calling for such things as increased per pupil expenditures, higher teacher salaries, and capital improvements.

Following the wave of recent educational reform efforts, these plus other, more innovative responses are being called for. Suggested responses include equalized funding formulas to get the money to the places of greatest need, flexible funding to allow those most responsible to design their own approaches, merit pay plans, incentive funding for teachers and schools, private investment, choice, and restructuring (whatever that means). From the perspective of the Southeastern Educational Improvement Laboratory, the following responses include those we believe to be potentially the most appropriate and cost effective:

- Early Childhood Education and Child Care.
- Parental Education and Involvement.
- Adult Education.
- Appropriate Use of Technology.
- Leadership Training.

It needs to be pointed out: an investment of time and talent, as well as dollars, will be required if these responses are to be most effective. These responses need to be community based and driven. And, they will need to be collaborative.

Remember, "some of us may be smarter than the rest of us but none of us is smarter than all of us."

Summary

A successful investment in human resource development for our students, our schools, our communities, our states, our region, and ourselves will be:

- Long-term.
- Slow to produce results.
- Risky.
- Expensive.

Not to take such risks and to refuse to make such an investment will be far more costly. The very nature of our way of life may depend upon this investment.

Alabama Industrial Council on Engineering Education (AICEE)

Eugene G. Cowart
Chief Engineer of the
Huntsville Division of
The Boeing Company

I am here to represent The Boeing Company, in particular the Huntsville Division with some 3,000+ employees in Huntsville. The Division in its entirety represents around 6,000 people primarily located in Huntsville but with strong contingents at Cape Kennedy, Houston, and New Orleans. As the Division Chief Engineer, my remarks will obviously be slanted toward Engineering. I was particularly pleased to be asked to speak inasmuch as I am also a member of the Alabama Industrial Council on Engineering Education or AICEE and have been for several years. By the way of explanation, AICEE is a study and recommendatory body to advise the Governor, the State Legislature, the Alabama Commission on Higher Education, and the state's engineering colleges on engineering education in the state. This organization is made up of around 25 representatives of industry and government throughout the state. It is presently chaired by Dr. William McCorkle/Director of Research, Development and Engineering Center for the U.S. Army Missile Command at Redstone Arsenal. Previously, it was chaired by Sabert Oglesby/President Emeritus of Southern Research Institute. The Council consults periodically with the various deans of the six engineering schools in this state. In our endeavors, we have developed a substantial amount of information as to the needs of the state engineering schools. One of the main precepts upon which the Council works is that good engineering schools are vital to the state's economic growth. We believe that they have a direct bearing on increasing the state's gross national product with attendant benefit to the state's lifestyle, tax base, and general well being. Paramount to this issue, is a determination of what types of engineers are required, what degree levels and, of course, basic to that is what the state's engineering schools need to do in order to produce high quality graduates.

Some months ago, the Council performed a study wherein we sent questionnaires to industrial and government managers across the state as to the types of engineers that they needed and at what level as to PhD, MS, or BS degrees. We also questioned the placement organizations of the six colleges of engineering in the state.

We also inquired into the level of funding required for the various colleges and, as you would expect, funding for colleges of engineering generally reflects the overall funding levels for education in the state of Alabama. It is my understanding that appropriations for education in Alabama take up 77% of the state's total budget. Higher education in Alabama was funded in `86 and `87, which is the latest statistics we had, at about $3,000 per full time equivalent student, which is some 20% below the national average. And thus it's no secret that additional revenue will be required to alleviate the present underfunded situation. From this we could tell that based on a study entitled **Planning Factors In Engineering Education**, which was supported by the American Society for Engineering, Education as well as information from the Alabama Engineering Schools, that the funds per student credit hour are below average and the student credit hours per faculty man year are above average.

Of particular concern to the Council was the graduate engineering PhD pro-

grams in Alabama. Advanced degree programs are essential to development of technologically oriented industry in the state and it was perceived by the Council that PhD programs in Alabama are not of quality comparable to other states. One of our recommendations was that measures be taken to minimize the proliferation of PhD degree awarding programs. We found that there were a great many programs carried on the books that were not used and we felt that this probably tended to water down the funds available. Alabama currently has 28 engineering PhD degree programs with 11 additional ones requested. The number of PhD degrees awarded has varied widely and appears to be increasing in the past few years. However, in 1987, only 36 PhD degrees were awarded. For the previous five years, Alabama averaged about 22 per year. It would appear that the number of PhD programs is inconsistent with the degrees awarded. The feeling is that concentration of PhD programs would improve the utilization of faculty and equipment and reduce competition for graduate students and funds.

There is a significant shortage of engineers projected nationally for the next few years as enrollments have declined since there is a reduction in the number of high school graduates as well as a lowered percentage choosing engineering as a profession. This has been recorded as a matter of national concern. In Alabama, the engineering schools have produced around 1400 - 1500 undergraduate degrees per year for the past few years and the number has leveled off.

Out of all of this, in reviewing the status of engineering education in Alabama, we arrived at several specific recommendations for improvement as follows:

- Because of the large number of degree granting engineering schools in Alabama, no new engineering schools should be approved for this state.
- The State Legislature should as a minimum work to provide additional revenue for schools of engineering to bring their funding level to the national average within a five year period.
- Engineering laboratory equipment should be upgraded and provisions established for its proper maintenance. The poor state of engineering laboratories is a major deficiency noted during the ABET inspections that needs correcting. ABET is an organization that certifies the acceptability of engineering institutions. A possible solution to improving lab facilities might be for the Legislature to include in the State budget the amount to upgrade each university's laboratories on a rotating basis. Provision must also be made for proper maintenance of lab equipment either through the university's normal appropriations or through differential fees for engineering students.
- Interactive telecommunication links should be established to utilize strengths in specific areas of each institution to maximum advantage.
- Greater cooperation between state engineering schools should be encouraged to improve quality of graduate degree programs.
- The Commission on Higher Education should work with Alabama Schools of Engineering to more effectively utilize available funding.
- The Commission should continue to revise the formula for funding of higher education to reflect actual costs of programs. University administrations should utilize the formula as a guide to internal allocations between schools of the university.
- Schools of Engineering should cooperatively develop long range plans for research programs to encourage proper

balance between basic and applied research to develop centers to improve the effectiveness of applied research, to encourage cooperative research programs and to minimize duplication of research areas.

In coming up with these recommendations, we also met with Deans of Engineering from other Southeastern universities such as Georgia Tech, University of Central Florida, Florida Institute of Technology, University of Alabama, and other state deans as well as J. T. Sutton, the Executive Director of the Alabama Commission on Higher Education.

Now, as to some of the specifics of the needs for engineers. Nationally, there is a growing shortage of engineers at all levels. The number of full time undergraduate students peaked at about 77,000 in the 1985-86 academic year and has declined about 10% to the present time. The number of college freshmen entering engineering programs has declined about 20% since 1983.

By comparison with many other developed countries, the U.S. is graduating fewer engineers on a per capita basis. For example, Japan graduates twice the number of engineers as the U.S. with half the population.

As previously mentioned, graduate programs are also of concern. High salaries and competition for BS graduates have resulted in fewer going on for advanced degrees. At present, about half of the PhD degrees granted, and a third of the engineering faculty positions, are held by foreign born persons.

The total number of bachelor degrees awarded by the six Alabama schools has remained about the same in recent years at about 1400 to 1500 per year. The trend in Alabama schools appears to be the same as the nation in that fewer percentages are choosing science and engineering.

The AICEE survey conducted during the spring of 1989, relative to Engineering Requirements in the state of Alabama, asked the following questions.

- Type of industry or principal product?
- Number of engineers employed?
  Less than 10?
  10 to 30?
  30 to 50?
  Over 50?
- Principal disciplines: i.e., Chemical, Electrical, Mechanical, etc.?
- What quantity of these do you plan to recruit in the next 12-18 months? Are any at the MS or PhD level?
- Do you specifically recruit PhD graduate engineers? MS graduate engineers? If so, what disciplines are solicited?
- Are specific assignments made or reserved to PhD graduates or are they used in conventional engineering tasks?
- Is the PhD or Masters degree considered beneficial to the operation of your company?
- Comments:

These questionnaires were submitted to some forty-five Alabama industries or government agencies with good response. Placement Offices at the six Alabama colleges teaching engineering were also contacted with a somewhat different questionnaire. Responses indicate a continuing heavy demand for engineering graduates at all levels. Industry and government responders indicated plans to hire some 737 engineers within the next 12-18 months. Organizations' hiring ranged from large to small in number of engineers employed; three employ 0-10 engineers, four employ 10-30 engineers, three employ 30-50 engineers and 15 employ over 50 engineers.

Principal disciplines desired found electrical and mechanical engineers at the top with civil and chemical engineers close behind at the BS level. Thirty-five percent (35%) indicated that they would specifically recruit engineers at the Master of Science degree level and 20% indicated that they would specifically recruit PhD graduate engineers. Of the six Placement Officers responding, three indicated that they received specific requests for PhDs with about 40% requesting electrical engineering PhD degrees, about 40% chemical engineering PhDs and around 15% computer science PhDs.

In questioning the placement offices of the engineering universities in Alabama, we found that each engineering graduate receives offers to the extent that a third of the graduates will receive three offers from in state, half of them will receive two offers and the balance will receive one offer in the state of Alabama. In the case of the MS degree, some 20% received three offers. One disturbing note was that if you lumped up Bachelors, Masters and PhD degrees, we find that some 40% of the graduates leave the state upon graduation. One thing that became readily apparent and probably no surprise to anyone was that there is a very good demand for all engineering students right here in Huntsville. A point of interest was that many of the respondents indicated that a Co-Op student or someone with previous undergraduate work experience is often more important to them than a graduate degree.

One rather interesting comment that came in was the difficulty in finding U.S. citizens, especially from Alabama, with a PhD degree in either chemical or mechanical engineering. One suggestion was that possibly colleges should arrange special stipends for Alabama natives that wish to earn the PhD.

Responses from Placement Offices indicated that a MS degree could demand anywhere from a 5% increase in salary over that of a BS up to $5,000 to $10,000 a year, whereas, a PhD might approach a 33% increase over that of a BS degree.

In summary, the survey revealed that the responding Alabama industries and government agencies have and will continue to have a heavy requirement for engineering graduates. An obvious extension of this is that engineering colleges in Alabama must achieve and maintain a healthy funding status if they are to continue to underwrite that state's continuing progress in technology.

Now as to what we at Boeing need, and again I'll confine my remarks primarily to engineering but it is important to understand that engineering as such does not exist in a vacuum, we need people in Finance, Human Resources, Materials (or Purchasing), Facilities, Business Systems, and a whole host of other disciplines. Probably the best way to do this is to discuss some of the Boeing/Huntsville programs. In one product line we design and build trainers and simulators. We have both B-1B Bomber and KC-135 Tanker simulators up and running with these being delivered to various Air Force bases around the country. These are some of my favorite parts of The Boeing Company inasmuch as being a former Air Force pilot (white scarf, goggle, and biplanes) I occasionally go over and try out one of the simulators. These simulators are so real that they can really get the adrenalin pumping when you're making a night landing final approach and the operator says, "I think I'll give a little turbulence and ground fog." In the case of one of the simulators, we have some several million lines of computer code operating to create realism. Once you sit down in that cockpit you'll think you are in the real airplane. They even smell like an airplane.

We're also developing a missile system called the NLOS (FOG-M) which is Non-Line of Sight/Fiber Optic Guided

Missile. This comes both in a light version mounted on what we call a HMMWV which is a replacement for a jeep or a heavy version which is on a tracked vehicle similar to the chassis for the Bradley Fighting Vehicle. This is a missile for defense against helicopters and/or tanks which allows the gunner to sit in his vehicle several kilometers back of the line of battle and fire these missiles, look at a small TV screen not unlike a video game and see what the missile sees, and aim it right into the target. He aims it until the missile locks on, after which the missile will guide itself in. Complementary to that is a weapon system called the Avenger which is also an anti-aircraft defensive system mounted on a HMMWV to give the soldier on the ground the best defense possible against low level flying aircraft. Its principal weapons are pedestal-mounted Stingers.

One of our major programs is the Space Station Freedom Program of which we are responsible for the Laboratory and Habitation modules, each 14 feet in diameter by 45 feet long, in which the astronauts will live and perform their experiments in an orbit several hundred miles above the earth, and the somewhat shorter Logistic Module which transfers cargo between earth and orbit.

We employ over 800 engineers in Huntsville with a third in Product Design, 20% in System Engineering, 15% in Software Engineering, and 15% in Technology. Our forward planning indicates that this will increase about 180 this year. Some of these will be transferred from other locations but our main thrust will be for younger new graduates. We recruit primarily from Southeastern universities for Huntsville. As a matter of information, Boeing employs around 18,000 engineers company wide. While we hire the complete spectrum of engineering disciplines, it is heavily slanted to Mechanical, Electronic, Civil Structural, and Aeronautical. Recently we have required a number of chemical engineers to perform the metabolic related Process Engineering required in Space Station Environmental Control, Life Support Systems. Once on board we train them toward specific skill areas depending upon needs, interest, and aptitude. There are some 175 skill codes reflected in Boeing Aerospace and Electronics. As you might expect, we also do quite a bit of research and future studies looking at cargo versions of the shuttle and on out to the year 2010 and beyond where we are examining such things as the Human Exploration Initiative, Mars Rovers, and other space applications which those of us in the more pedestrian parts of engineering like to think of as FAR OUT. I always tell those fellows that it must be fun because it is so far out most of them will be retired before they have to really put up or shut up! But you can't be short sighted in this business.

If you looked at our overall workforce, you would find the concentrations which really indicate the type of engineers that we would be hiring have historically been heaviest in electronic design (although now decreasing) followed closely by software engineering. Probably the next would be mechanical systems as well as structural. After that we have a whole array of almost every type of technology imaginable. One area previously mentioned that is getting a lot of attention now that in some ways is new to us is called Environmental Control Life Support Systems which shall be used on the Space Station Freedom. This is an area somewhat new to The Boeing Company and, in fact, rather new to everyone; not that astronauts have not been in space for short periods. We have not as yet really learned all the things we need to know about what happens to the human body in long term space and how you support life in an essentially closed ecological system. The Russians are one up on us there having spent more time in their MIR Space Station. That notwithstanding, we're doing a great deal of experimentation and testing of equip-

ment and facilities to be ready for that. I mentioned the simulators: they are very heavily involved with software engineering because what you are doing is synthesizing an aircraft cockpit as well as the defensive systems of a modern day bomber. When you get into some of the Air Defense, Anti-Tank systems you find yourself running the gambit all the way from the rather arcane subject of fiber optics down to the adaptation of these weapon systems to truck and tracked vehicles which are a far cry from anything that flies. So if you ask the question, what type of engineers will we hire, the answer is good ones of all types because in the modern aerospace environment you run the full range of technical specialties. We have a poster we give to schools with a picture of a 747 and the statement "Stay in school, take the hard courses, and then come see us." As an aside, in my own case, I spent several years working on railways for The Boeing Company back in the early days of the Minuteman Program where we had to transfer large missiles by rail around the U.S. There were many humorous things related to this when I took my shiny high tech aerospace face into the Union Pacific Railway headquarters in Omaha where their receptionist was an aged gentleman with a green eyeshade and garters on his arms. Talk about a mix of cultures. Right down the hall they had an excellent museum of Plains Indian artifacts.

The AICEE concludes from the study earlier mentioned that schools of engineering in Alabama are not sufficiently funded to provide the quality of engineering programs needed to insure economic growth in the state. The problem appears to lie in the total appropriations for education since both primary and secondary schools as well as institutions of higher learning are funded considerably below the national average. It does not appear that this situation can be corrected without additional revenue since allocations for education already represent about three-fourths of the total state appropriations.

I hope I have not bored you too much with some of these statistics, but I do firmly believe that the health of the engineering community in the state of Alabama is vital to the state's continued progress in quality of life for all of our citizens.

Thank you.

U.S. Industry in Transition

Richard J. McEntire
General Motors Corporation
Saginaw Division

U.S. industry today is in transition. We used to hire employees to do mainly physical work. Only if you went into management were you expected to think.

This community needs to feel pride in successfully providing the most prized resource to business and industry: its employees. At General Motors, this meant people with an attitude: I or we can do it!!

As the work/life experience of the population has changed, so have the demands on industry. As a result of this change process, Saginaw has shifted our needs to a well-educated work force rather than the ability to do physical labor. We now need the whole person, especially the ability to think, reason, and participate.

Here is what we have learned:

1. The requirement for success in industry is to make the customer happy. The key success factors are:
   - high quality products or services
   - on-time delivery
   - a competitive price

2. It is impossible to do this consistently without two major components:
   - an effective system of production
   - high quality people
   - after all, high quality components = high quality products

The skills needed to become high quality people are categorized in four basic areas. They are:

- mathematics
- communications
- reasoning skills
- interpersonal skills

Mathematics may be best described as arithmetic. Knowledge of whole numbers, fractions, decimals, and percents. Understanding of scales and measures. Conversion of English to metric and metric to English. Basic knowledge of geometric shapes and volume along with algebra for angles.

Communication skills include reading for comprehension of notes, memos, and forms. The knowledge of words for diction and grammar. The ability to listen. Writing skills for sentence structure on notes and letters.

Reasoning skills are needed to obtain information. The ability to organize, estimate, and prioritize tasks. Goal setting and action plans to achieve. Diagnosis and problem solving skills are needed. The ability to plan, coordinate, and review results.

Interpersonal skills are needed to understand behaviors of peers, subordinates, and supervisors as individuals and may be more important in group settings. Examples of interactions are: Conversations, presentations, instructing, interviewing and counseling.

Industry is no longer going to be the employer of large masses of people who have just left farming as their major occupation as in the past. Industry will provide resources to train and retrain their employees or they will not survive.

Will education survive the politics of bureaucracy which can only react to a crisis, or actually work on identifying the major problems and solve them? I believe that as a community we need to adopt major new methods such as:

- instill the habits of working and learning in our youth at an early age

- promote continuous learning in adults
- redesign the workplace to the changed labor force
- change the "teaching" process
  Example. Do we assign a task to a group and give each the grade of the project, or will we continue to compete for who's #1? (Remember, this will give one winner and many losers.)
- compensate competent teachers while holding them accountable for their performance
- institutionalize the philosophy that the teacher or educator is a prized community resource.

In closing, I ask you which would you rather be: rich or poor? Would you rather be powerful or powerless? Strong or weak? In control or under someone else's control?

I vote for rich, powerful, strong, and in control. The key to this is knowledge. The process is participation. Commitment is the attitude.

Partnerships to Enhance Workforce Literacy

Lloyd C. Clemmons, President
Muscle Shoals Personnel Association and
Human Resources Manager
Occidental Chemical Corporation

If the United States is to successfully meet the economic challenges it faces, the literacy levels of working-age Americans must be raised.

In Alabama, we must have a cooperative effort between business and industry, education and government aimed at raising work-force literacy. By making this statement, I do not intend to imply that our state is not making an effort in this direction, nor has any programs designed to accomplish this objective. In fact, there are a number of excellent programs in place.

In a U.S. Department of Labor report, "Enhancing Literacy for Jobs and Productivity," edited by Judith K. Chynoweth, Council of State Policy and Planning Agencies (CSPA), the efforts of nine states to develop and implement literacy policies have been documented. Missouri's Governor John Ashcroft served as lead governor in the effort.

In writing the foreword for the report, Governor Ashcroft stated, "The United States is at a crossroads. The world economy is changing, and the American economy with it. World trade, new technologies, and global competition place new requirements on the workplace, and the workforce. The demands of the world economy are outpacing the skills of many Americans. The gap between the demands needed in the workplace and the skills resident in the workforce is growing larger by the day, and is reaching crisis proportions for many of our workers."

Today, we can echo that same concern for Alabama. The gap is widening between the education and skills of workers entering the labor force, and the advancing skill requirements of the new economy. Enhancing the literacy of working-age adults is essential if Alabama is to successfully meet the economic challenges it faces. We must invest in human potential!

Investing in workforce literacy requires a new way of thinking. Until recently a person was presumed literate if he or she could read and write at a specified grade level. While the designated grade level has changed during the last fifty years from fourth grade to eighth grade, the basic presumption of literacy as any grade level is being challenged. First, there are no guarantees that a person stamped "grade 8" will have the skills needed to function on the job and at home. Second, the skills needed for employment are changing rapidly and growing ever more complex. Literacy is more than decoding words. Its definition is determined by the environment.

The objective of investments in literacy should be to enhance the employability and productivity of people. Literacy is viewed as a combination of skills. Basic reading, writing and computation competencies allow an unemployed worker to train for a specific occupation. Oral and written communication skills enable a supervisor to direct others in a complex manufacturing operation. In fact, it is becoming more and more a requirement for all production and maintenance employees to develop effective interpersonal skills. A failure to do so means that the team fails to capitalize on the synergism that can result from a total team effort.

If the definition of literacy is going to be defined by the environment, then let's concede up front that we are not using the term "literacy" in its dictionary context, which in most editions is merely, "the ability to read and write." Expressed in the negative form, the popular term "functional illiterate" usually means, "a person who cannot read well enough to function in a complex society."

Let's set the word "read" aside for a moment and think about the workplace illiterate as the individual who cannot _____ (and you fill in the blank) well enough to function productively in the work environment. Some terms we might place in the blank are:

> Think, reason, analyze, problem-solve, communicate, interact, get along with people, work safely, use a computer, write, spell, follow directions, be creative, use numbers, cope with stress, handle personal problems, keep him/herself healthy, remain mentally alert, etc.

The list is much longer. What I am saying is that anything which keeps an individual from functioning at his or her level of ability is, in effect, causing that person to become a "work-place illiterate."

We at OxyChem's Muscle Shoals plant are convinced that productivity improvement, meeting our customer needs, and meeting the challenges of the 90's mean helping people to overcome these barriers to "workplace literacy." How do we plan to do this and what do we see from an industry perspective as the role of our educational system?

We have submitted a proposal, with the help of the Director of the Northwest Alabama Adult Basic Education Program and Auburn University, to the U.S. Department of Labor for assistance in establishing a "Lifetime Learning" plan for each employee. Through needs assessment and individual counseling we hope to help each individual develop a plan, based on his or her career goals, to obtain the needed skills and education to reach that goal. This, as you can imagine, would be a major undertaking. We feel we need professional and financial assistance to accomplish such a goal. If approved, the program would become a model; and we are committed to assist other employers in establishing similar programs.

Regardless of whether the proposal is approved, we are committed to helping each individual be the best he or she can be. Over the past several years a large percentage of our employees have become computer-literate through company-sponsored continuing education courses at the University of North Alabama and Shoals Community College. We have sent maintenance and laboratory employees as far away as Florida, New York and Texas to vendor training programs. We have found there is a place for correspondence courses, video training and in-house programs.

I believe we sometimes expect too much from the educational system. We must recognize that the responsibility for "work-place illiteracy" must be shared by all segments of our society. However, we must not take away the responsibility of the individual who lacks the specific skill to function at the desired level. Educational institutions can develop programs to meet every deficiency mentioned earlier. If individuals do not recognize their needs and have a strong enough motivation to change, they will not take advantage of the opportunities. As an example, one of the fine programs available through the Cooperative Extension Program in our community is "Financial Planning." It is my understanding that the majority of the people enrolled in the program at any given time are there at the direction of the courts. They are people who have gotten their personal finances, and many times other areas of their life, in such a mess as to cease functioning as a productive member of society. It is great that we have programs for people who get into this condition. I'm not being critical of that use of the program at all.

However, I believe there is a place for this type of program in the workplace. Consider the young engineer who comes to work after 16 to 18 years of going to school and paying out money. He or she is suddenly in the position of having a regular income with the prospects of continued employment. For some, without the skills to plan their personal finances, the purchase of a new bass boat, expensive sports car, etc. seems the natural thing to do. Pretty soon this individual is so "stressed-out" and preoccupied with his or her financial situation that it is impossible to function productively in his or her job. This is just one example of how people can become "workplace illiterate" using our definition as, "one who cannot _____ well enough to function productively in the workplace." We can't afford to overlook, and I do not mean to minimize, the very real problem of the lack of reading and writing skills in our society. One of the best approaches I have ever seen to help people learn to read is the Principles of Alphabet Learning System (PALS) in place at Shoals Community College. This very effective program is the result of a joint effort between the Northwest Alabama Adult Basic Education Program, Shoals Community College, the community, and local government in the kind of partnership we are advocating. If you are not familiar with this program, I encourage you to visit one of the locations. There are others in our state and in other states. Without going into detail, the process involves the use of computers and is an interactive program in which the individual who cannot read is able to say, "I'm going to computer class" instead of, "I'm going to a class to learn to read."

Thinking again of the many people in the workplace who have one or more of this long list of deficiencies which keeps them from being productive or reaching their potential in the workplace, what is the answer? What should we be doing? In my opinion, we must continue to develop partnerships between business/industry, education, and government to provide programs in all of the areas of deficiency that I have mentioned, plus a lot more that we haven't talked about, including some

which many of us have not even recognized as needs at this time.

To adequately address "workplace illiteracy" there is a role that each of us must play. Employers must be committed to developing human potential, educators must stay in tune with the needs of the workforce by doing what the sponsors of this conference are doing, and programs must be developed to meet those needs. Our State Legislature must properly fund our educational system, and we, as individuals, must insist on having a tax structure that is fair and adequate to run state government without making a political football of the budget year after year. I encourage each of you to become educated on the subject of our tax structure. When you do, I believe you will join the growing number of Alabamians who are demanding that tax reform be a top priority during the 1991 legislative session.

On behalf of the Muscle Shoals Personnel Association, I commend Alabama A&M University, The Alabama Cooperative Extension System, and Tennessee Valley Authority for sponsoring this conference.

STRENGTHENING THE TWO-YEAR COLLEGE'S ROLE IN ECONOMIC DEVELOPMENT

Dr. Stafford L. Thompson
Vice Chancellor for Secondary Education State of Alabama

At the outset, I would like to commend the planners of this conference. Your theme "Training and Jobs: Keys to Rural Economic Development" is most appropriate from a community, junior and technical college perspective. The relationship between a well-trained and capable work force and economic development has long been recognized by those community leaders who seek industrial expansion and/or industrial relocation to our region.

Alabama's community, junior, and technical colleges have played an indispensable role in the economic development of Alabama. In fact, the need for bringing educational opportunities to all sections of the state was the one compelling reason given for establishing our system.

As institutions were created to bring about positive change, they have fulfilled their mission with the development of programs and services responsive to the emerging needs of the state. In the late '40s and '50s, five regional trade schools were established in Dothan, Mobile, Birmingham, Decatur, and Tuscaloosa. These institutions were instrumental in the development of a more industrialized economy in the state. In the mid-'60s and '70s, they were expanded to include community, junior and technical colleges primarily to assist in the diversification of our industrial base and to provide access for thousands of Alabamians to the opportunities offered through higher education.

During the past 10 years these colleges have been called upon to respond to unprecedented advances in technology. Technological changes in the international arena have been so rapid and profound that

they have reshaped our nation's economic strategies and the society in which Alabamians live.

The Alabama College System has responded to these challenges through the development of innovative programs of instruction and incorporation of technological advances in its curricula. Learning resource centers and laboratories have been strengthened, and computer literacy is no longer a rhetorical expression but an expectation of graduates.

The need for global understanding and a knowledge of international economic and political movements is reflected in our academic transfer curricula. A revival of interest in foreign languages reflects the impact of international trade and competition. Alabama's competitors no longer speak with different accents but with different languages, come from different cultures and have different beliefs.

Technological innovations in the international manufacturing and industrial sectors have had a direct impact on Alabama's economy and Alabama's skilled work force.

To be competitive, Alabama's businesses and industries indicated a need for technicians with advanced technical skills, a better foundation in mathematics, the ability to communicate, a greater understanding of theory and the capacity to reason and successfully respond to a changing environment. The Alabama College System has responded with major revisions in technician training programs including incorporation of a rigorous general education core curriculum, enhanced degree requirements and restructuring of instructional strategies.

While raising academic standards, colleges have not abandoned their commitment to access. As open-door institutions with high expectations of student performance, the role of remediation has been expanded. Student advisement, testing and placement have permitted colleges to diagnose and correct academic deficiencies, thus assuring students' success in their college experience.

New partnerships have emerged with government, community, business, and industry. Community, junior and technical colleges are actively involved with local businesses in training and retraining of employees; specialized centers have been created to assist in the transfer of technology to the classroom and workplace; and small businesses have a new reliable support group they can call upon.

The Alabama Industrial Development Training Institution (AIDT) provides a major incentive for companies to locate or expand their operations in Alabama by providing start-up training for new and newly expanded industry. Coupled with community, junior and technical colleges' emphasis on upgrade training, this has proven to be a winning combination.

As we position our state to take advantage of the opportunities offered through the information age, it is important that we recognize that our society will require technicians with advanced technical skills, an understanding of the theory which supports those skills, and the capacity to positively respond to changing technology.

It is also important to recognize that thousands of our citizens who can find jobs now even though they are functionally illiterate or educationally underprepared will not have those types of jobs available to them in the information age. We must plan <u>now</u> to deal with this issue.

The challenge before us is to make sure our society responds positively to the opportunities before us. This challenge must be met by each community, by each college, by each economic development group, and each business and industry on an individual case by case basis. We each have a very vital role to play.

Local businesses must become more involved in the educational process. Community colleges must become more involved in the economic development efforts in their communities. New partnerships must be found with universities. One group should not sit back and wait on the other group to take the initiative. You must communicate with each other.

Business leaders must take the time to participate in college advisory board meetings. You must tell your local college the kinds of skills your employees need. You must give meaningful feedback on the success of our graduates in your workplace.

In closing, your community, junior or technical college can be a tremendous asset in strengthening the economic development opportunities in both urban and rural areas. These institutions were created to facilitate the economic growth of our state and provide our citizens with the skills necessary for meaningful employment.

The Crucial Role of Economic Education in Economic Development

Kimberly J. Reda-Wilson, Professor
Department of Agricultural Economics
Virginia Tech. University

Introduction

The one underlying element inherent to all topics of discussion that will be presented during this conference is economics or, as we say in economic education, the process of decision making. Economics does not mean "a body of settled conclusions [or attitudes] immediately applicable to [public] policy questions" (Watts). Yet, every presentation will involve a situation in which a set of costs and benefits should be analyzed. This is precisely what the discipline of economics gives us, a means

to analyze costs and benefits associated with alternative choices, the subsequent evaluation of efficiency effects and the explicit identification of any major distributional consequences (Watts).

My message involves economics, more specifically, it is about economic education. It is my belief that most any question presented at this conference cannot be rationally answered without the application of basic economic reasoning.

The Condition of Economic Literacy

While a few studies can be cited to confirm the level of economic illiteracy among the adult population, some insights can also be gained by analyzing public opinions. A **Times Mirror** study conducted in 1989 revealed that 59 percent (74 percent for those under age 30) of the American general public believed their personal financial situation would be better in a year while only 25 percent expressed the same confidence in economic expectations for the United States. Even though 50 percent of the general public wanted to increase government spending on the public school system, 42 percent worry most about "an increase in taxes." These examples of public opinion may correlate to a lack of basic economic understanding. It's as if many people do not understand the interrelationships between various economic activities. An earlier study conducted by the Hearst Corporation in 1984 concluded that "a large segment of the American public is sadly deficient in its knowledge of basic business and economic facts of life."

Economic education specialists William Walstad and John C. Soper surveyed over 8,200 11th and 12th grade students to discover that many had little idea how or why the U.S. economy operates the way it does. Some of their findings revealed that less than half of the surveyed students could correctly define profits; only 45 percent realized that a budget deficit happens when the government spends more than it receives in revenues; and only 44 percent understood the crucial role of competition in a market economy. This low level of economic understanding among secondary school students is likely to continue into adult years when they will be adversely affected in roles as producers, consumers and voters.

Economic illiteracy is not a new phenomenon. "In the late 1940's, leaders in business, labor, education, and government became increasingly concerned about Americans' lack of economic knowledge" (JCEE, 1987). The Committee for Economic Development (CED), composed of a group of corporate executives, founded the Joint Council on Economic Education (JCEE). The CED realized its goal for sound economic growth needed to be precluded by an economically literate citizenry. Thus the JCEE's mission was to introduce economics into the curriculum of the nation's school system. Their goal of "economic education" is to enable American people to understand the American economy.

> To achieve such an objective involves approaching economics as a discipline, not as a set of doctrines. Economic education is not rote teaching of abstract rules any more than it is the advocacy of a particular point of view. Economics involves the application of concepts, principles, and methods of analysis. The aims of economic education are to promote people's understanding of how the economic system works and to develop their ability to make informed choices within that system (JCEE, 1987).

The JCEE operates through a delivery system of 50 State Councils on Economic

Education and approximately 300 university-based Centers for Economic Education. Because the centers and councils work with local school systems that control their own programs of economic education, the JCEE's operating procedures are inherently flexible. "Running through these operating procedures are two prevailing principles: objectivity in the content of the economics taught plus local control in the teaching" (JCEE, 1987).

The Educational Reform Movement

More recently, goals similar to those espoused by the JCEE have been endorsed by the educational reform movement. Grounded in these reforms is the goal of sharpening America's economic competitiveness. Michael A. MacDowell, past JCEE President, states that the document entitled A Nation at Risk specifically recommended a greater emphasis on economic education in the schools. MacDowell then quotes Terrell Bell, the secretary of education who prompted the writing of A Nation at Risk: "The importance of our economic system and our [related] social institutions receive too little attention in the classroom. Economics is essential in preparing students for the future they will face as citizens of the 21st century" (**Education Week**, 1987).

MacDowell contends that three very distinct thrusts of educational reform have emerged in response to A Nation at Risk. He quotes an unpublished paper by L. Scott Miller, program officer for the Exxon Education Foundation:

> The first is a call for higher educational standards. Growing international economic competition and a general sense that educational standards have been eroding since the late 1960s provide the basic impetus for this thrust. Economic research on the origins of productivity growth in various nations..., once again, points to the importance of human capital (roughly speaking, the amount of education workers have) as a catalyst for economic growth and adds further impetus to this aspect of educational reform.
>
> The second thrust is the recommendation that the schools be significantly restructured in a manner that allows students to become more effective "workers" and teachers to truly become professionals. Based on the research of Theodore Sizer, John Goodlad, and others, the advocates of this sort of reform suggest that traditional schooling, which places students in the role of passive learners, is no longer appropriate in an increasingly multicultured society that prides itself on the diversity of its people and the pluralism of its power centers.
>
> The third thrust is the recognition that the student population is changing dramatically. Based on the demographic analyses of Harold Hodgkinson, this recognition may be the most powerful of all because it suggests that students entering the schools today look and act much differently than the entrants of yesteryear. These new, predominantly minority, students are those most likely not to succeed under schooling practices based on the past that still prevail today.

Rural Children in the Economic Arena

Ms. Sarah C. Shuptrine, a member of the National Commission on Children, shares the view that many of the problems facing children and families today are threatening the future of our nation. Poverty is one of the major factors which will hinder the development of children

and will weaken their ability to fully participate in the workforce. While poverty is increasing in both rural and urban areas, a higher proportion of rural children live in poverty than their metropolitan counterparts. Other obstacles facing rural children and families include: lack of any health insurance, high infant mortality rates, high teen birth rates, increasing levels of juvenile delinquency and substance abuse, higher than average school drop out rates, and lower than average college attendance rates. Of those who drop out of school, many will lack the prerequisite skills to obtain even the most menial form of employment.

We will all bear the social costs of those whose lives become impaired by the above obstacles. A Stanford University study estimates that school dropouts cost taxpayers from $60 to $228 billion a year in lost tax revenues. This figure does not account for welfare programs, crimes committed by unemployed youths and other social costs of unemployment and poverty (JCEE 1988).

Entrepreneurship as It Relates to Rural Development

The topic of entrepreneurship warrants further discussion as it has a significant role to play in rural economies. "In the past, employment growth in the rural South has depended on the location of large goods producing industries" (Johnson and Fisher). Today many of these firms are finding their low labor costs and access to abundant labor elsewhere. Rural areas must join the mainstream of the "new economy" by shifting emphasis to entrepreneurial business, defined as fast growth, innovative technology-based industries (Johnson and Fisher).

If we accept as an objective to increase entrepreneurial activity, then we must also answer how to increase entrepreneurial talent. Research demonstrates that entrepreneurial talent can be recognized as a component of economic education instruction (Reda-Wilson).

The Case for Economic Education

"Economic education, and particularly the economics profession, has a significant role to play in bringing home to the American people the importance of education as a prime stimulant for economic growth" (MacDowell). Various reports, including the National Commission on Jobs and Small Business (1987), the Report of the National Academy of Sciences (1984), A Nation at Risk (1983) and the National Science Board's Commission on Precollege Education (1983), have not arbitrarily cited economic reasons for educational reform. "There are valid and proven reasons why the quality of a nation's labor force has a significant impact on that nation's ability to remain economically viable and competitive" (MacDowell). Nobel Prize winner Robert Solow states, "... that education per worker accounts for 30 percent of the increase in output per worker and that advance in knowledge accounts for 64 percent." In their forthcoming book Productivity and Performance: The Long View, Baumol, Blackman and Wolff point out the significance of elementary education for underdeveloped countries and the significance of a solid secondary education for success and productivity of more developed countries.

Over the past 40 years, research conducted by JCEE personnel has contributed to the Council's increased level of sophistication in bringing economics to the nation's students. Walstad and Soper have concluded that achieving high-quality education in economics requires that:

1. A school district must make a commitment to economic education that begins early in elementary grades and spiral upwards throughout the curriculum;

2. All students must receive a course in economics prior to graduation from high school. This "capstone" course both culminates and adds significantly to student learning in the lower grades;

3. Teachers matter. If economics is to be taught, then it must be taught by teachers who have knowledge of the subject and who feel comfortable with it;

4. To this list, one other key element should be added. Because different kinds of students learn differently, the materials and programs in economics we offer to schools must vary. Boys learn differently than girls, students at risk of not graduating learn differently from those who are sure to graduate. No one set of materials, no matter how good, can meet the needs of all the main segments of the student population

Commitment to Economic Education in Grades K-12

To expound a little more fully on the items above, one may begin by emphasizing that economic education needs to be effective at the elementary and secondary levels, in colleges and among the general public. Yet, it is especially important at the precollege level because that is where economic education will end for many Americans. Think about it. Today's kindergarten class will graduate in the second year of the 21st century. The sample of students surveyed by Walstad and Soper will be those who, in a few years, will be running our businesses, schools and government - our economy. Yet, they have little understanding of how or why it operates.

America is weak compared to other industrialized countries like Japan and West Germany which require all students to take economics. West German students, along with their teachers, learn about the workings of their economy and their economic competitors.

The "National Assessment of Economic Education," produced jointly by the JCEE and Princeton University, indicates that high school students believe that their study of economics has helped them in considering "major, long-term issues affecting their lives..." (Baumol and Highsmith). Leet cites the same study which reveals that a majority (56 percent) of students who take a separate high school economics course wanted to take an additional course. The case for a separate high school economics course is made stronger when Walstad and Soper state that this "is the only reliable way to make significant gains in economic knowledge." Their research also indicates that students' economics test scores are not improved significantly by taking social studies, consumer economics or other alternative economic courses.

There is little research to cite in the area of elementary economic education. Yet some leaders in the field of economic education argue that beginning a conceptual framework that presents basic economic concepts sequentially from kindergarten through high school is the only way to have a lasting impact on students. This is especially true for those students who may not stay in school to experience a "capstone" course.

Teacher Training

A teacher cannot be expected to teach analytical economics unless that teacher has learned analytical economics. The National Assessment database revealed that the majority of high school economics teachers have only minimal (six hours or less) training in economics. Moreover, the average economics teacher has received no pre-service training in techniques for teaching economics (Baumol and Highsmith). Leet cites the research literature which demonstrates that teacher

coursework in economics will result in improved economic understanding by their students (Highsmith; Schober; Walstad and Soper). Walstad and Soper estimate from the "Test of Economic Literacy" (TEL) database that each additional college credit economics course taken by a teacher adds .064 points to the students' TEL Score.

Universities, schools, state departments of education, and legislators have to be convinced that economics is a vitally important subject to teach. Professional rewards should be forthcoming to future teachers who take economics classes. Colleges of education should be encouraged to offer economic education classes and require that they be taught by economists who are sensitive to the needs of teachers (Welsh).

Differentiated Learning Styles

The JCEE sponsored training research seminars that produced researchers whose findings verified that different students learn in different ways. Compared to other countries, America does not appear to be meeting the needs of individual varieties of students. For example, in Germany seven to eight teachers are assigned to the same group of 100 students from fifth grade through high school. "This cadre of teachers is therefore able to classify students by individual learning styles, to instruct each style of student appropriately, and to maintain an 'institutional knowledge' of how each student learns in different subjects in different ways. No specific class periods are set and hence students progress at their own rate" (MacDowell).

The field of economic education has made some strides in addressing differentiated learning styles. A wide variety of economic education materials from computer-assisted instruction, to audio-visual programs, to experience-based programs have been developed for grades K-12. All JCEE materials are developed around a set of twenty-two basic economic concepts endorsed by a panel of distinguished economists. Concepts are presented systematically according to the structure of the discipline of economics; cognitive development theories and research; and current school practices. Repeated exposure to and increased sophistication of important concepts help students to develop a foundation from which economic issues can be analyzed (Gilliard, Caldwell, et al.).

Demographic changes are altering the school population. Many of these students fall into the "at-risk" category due to a lack of "social capital." Upon entering school, they feel somehow different and that they are not part of the economic system. "At-risk students tend to internalize failure and externalize success -- if they fail it's their fault; if they succeed, it's due to luck" (MacDowell). Such an attitude poorly serves those who enter our economic system in which a sense of self-worth and an ability to make informed decisions are prerequisites for success.

Economic education may not be able to entirely overcome the lack of self-worth that many at-risk students possess, though it can play a role in convincing a number of these students, beginning in their early years, that they can indeed be a part of the economic system[1].

1. The Joint Council has developed a program entitled Choices and Changes for students in grades three, five, seven and nine. It is designed to convince students in their formative years that they can invest in themselves and become part of the economic system in which their parents and communities may have not been a part. The high school equivalent to this program is Economics/Entrepreneurship Education (E^3).

Summary

A decision making problem arises because a "do nothing situation has left things as they are" and the achievement of some "other" goal is desired. To achieve that "other" goal, it is not possible to select the "best policy" unless its costs and benefits are compared to alternative policies and goals.

Economic education can help prepare our students for effective decision making and to become more responsible citizens. Perhaps the most important goal of economic education is the replacement of emotional judgment by objective, reasoned analysis (Saunders, Bach, et al.). The National Council for the Social Studies Task Force on Scope and Sequence very adequately emphasized the importance of informed decision making:

> Citizenship means that an individual is fully franchised as a member of a political community. The rights, duties, responsibilities, and entitlements embodied in the franchise apply even-handedly to those who have the abilities and skills needed to participate in the social life of the group. But what becomes of those who do not acquire such abilities and skills? Moreover, can a society that assumes responsible citizen involvement in decision making survive if members do not, will not, or cannot participate in such decision making?

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GOVERNOR HUNT'S RURAL DEVELOPMENT INITIATIVE "ACCESSING AND LEVERAGING AVAILABLE RESOURCES"

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(unable to attend)

Alabama, like most other states in the Southeast Region, has experienced a rapid recovery from the recession of the early 1980's. In 1987 some 850 new or existing industries created over 20,000 new jobs and the state's unemployment rate declined from the April 1987 rate of 7.2% to 6.8% in April 1988. All indications are that this expansion and recovery has been sustained throughout all industrial and service sectors and is likely to continue. The Alabama Development Office, Alabama's industry recruiting agency, indicates sustained high levels of inquiries and 1990 should prove to be another good year.

One of the promises made by Governor Guy Hunt was that he would work to ensure that economic growth in the State would be shared by all of Alabama's citizens and to address the unequal distribution of growth with a rural development initiative. While the State unemployment rate was at 7.2% in April 1987, some 15 of the 67 counties experienced unemployment above 10% and the rate ranged from 5.2% in Madison County (Huntsville) to 15.9% in Conecuh County. The counties experiencing high unemployment were, without exception, rural and not located near metropolitan areas. In response to the disparity in growth patterns, Governor Hunt requested that the Alabama Department of Economic and Community Affairs (ADECA) undertake intensive efforts to provide technical and other assistance to high unemployment counties.

Due to problems in the nature of how monthly unemployment figures are computed, ADECA staff used a system developed by Auburn University to select the most distressed counties. This system used several measures of distress that included three-year unemployment estimates, number of persons on public assistance, and migration. Through the use of Auburn's system, ten counties were targeted for the intensive effort.

No additional funds were allocated to the Rural Development Initiative and ADECA was requested to leverage and target existing resources for the effort. The first step in the process was to identify the various state and federal agencies that had a role in economic development and to solicit their support in the initiative. The first county was targeted in July of 1987.

- Federal agencies in the July 1987 effort included: the Department of Housing and Urban Development, Farmers's Home Administration, Economic Development Administration and Small Business Administration.

- State agencies represented included: ADECA, Alabama Development Office, Alabama Small Business Development Consortium, Alabama International Trade Center, Southern Development Council, High Technology Assistance Center, Auburn Technical Assistance Center, and the Cooperative Extension Service.

As the initiative went on to other counties, additional agencies were added, including, at the federal level, the Department of Agriculture, Appalachian Regional Commission, and Tennessee Valley Authority; and at the state level, the

Alabama Departments of Agriculture and Industries, Conservation and Natural Resources, Indian Affairs, and Health.

Specific Objectives of the Initiative

The specific objectives of the program were established as:

1. To ensure that local government officials and area citizens are well versed in the role of the state and federal government to provide financial and technical assistance;

2. To ensure that all state and federal agencies are familiar with the problems and opportunities for economic development in rural areas;

3. To ensure that business and industry in rural areas have access to the technical and financial assistance that is available;

4. To provide counties and cities with a comprehensive assessment of their economic development infrastructure; and

5. To establish a long-term, on-going relationship between rural cities and counties and the state and federal agencies that support economic development and job creation.

A key component of the initiative is a week-long effort in the targeted county that involves participation by all agencies in assessing development potential, problem identification, and direct contact with appropriate constituencies. The agencies are assigned to teams that relate to development infrastructure, business development, education, and quality of life. Each team produces a formal report that inventories the problems and prospects of development. These reports provide a framework for a long-range plan for the counties that can be used in targeting their resources and in developing grant proposals.

Specific Agency Initiatives

Business development is handled by the Small Business Development Consortium, a group of twelve state universities that deliver consulting and training to Alabama's small business community. They bring staff personnel from several of the Small Business Development Centers into the county and survey all existing businesses to determine their needs and problems. The U.S. Small Business Administration staff members then meet individually and in groups with prospective loan applicants that have been identified by the Small Business Centers. The Southern Development Council, the State's business finance organization, supports the SBA effort and loan clients are assigned based upon which program best meets their needs. The Small Business Development Center assigned to that region of the state undertakes on-going training and consulting activities that are identified through the business surveys. The High Technology Assistance Center and Auburn Technical Assistance Center are available to meet with individual businesses that require research and technical support.

ADECA's Prepared Cities Program, in conjunction with other agencies, meets with all elected officials and tours cities and industrial parks to provide an assessment of their infrastructure. Specific problems that are examined include roads, streets, water systems, and waste water treatment capacity. In the infrastructure report an inventory of problems detected is provided along with strategies to overcome these problems.

ADECA's Community Development Block Grant staff meets with all potential grant applicants to discuss previous grant applications and to provide technical assistance in the preparation of grants. The objective of this effort is to ensure higher quality applications that better address the CDBG program and will rate higher in the selection process.

The Economic Development Administration and Farmers' Home Administration examine potential projects and help to initiate applications for funding.

The Alabama Cooperative Extension Service and the Alabama Department of Agriculture survey farmers and agribusinesses and direct their resources to dealing with problems of the agricultural sector.

Problems and Prospects of the Initiative

In the first twelve months after the Initiative began, four counties have been visited. Due to the intensive level of follow-up required by all agencies, it has become necessary to temporarily suspend activities to concentrate on these counties. The ADECA serves in a clearinghouse role and is in the process of adding additional personnel to track follow-up activities. Individual agencies have had problems in maintaining routine activities while providing special assistance to these counties. These problems, however, have not dampened the enthusiasm for the Initiative.

From the beginning specific emphasis has been placed on the long-term nature of the economic development process in order that false hopes are not created within the counties. Also, the role of local groups in development is stressed. Specific attention is paid to developing appropriate groups to support development and to carry the process forward. Competition between cities and various groups in a particular county leads to difficulties in developing unified development efforts. A cooperative spirit is stressed in the program and county-wide development groups are encouraged.

An evaluation of the effort in the first county, after about ten months, indicates that 120 new jobs have been created in existing industries. Fundable grant applications have been developed for EDA, Farmers' Home, and the CDBG program. Both the SBA and Southern Development Council have made loans to existing businesses and a county-wide development organization has been established that is being provided training through the Cooperative Extension Service. Perhaps most important, there is no longer a feeling of desperation and the level of optimism is moving the county forward.

After having taken the Initiative to ten counties, several conclusions are evident. First, businesses, elected officials, and citizens in rural counties do not know what is available to them and they do not know how to access the system. The Initiative overcomes these problems. Second, the value of an outside evaluation is significant in helping locals understand their problems. They take the whole process more seriously when "outsiders" tell them that their waste water treatment facilities will not support development. Also, the familiarity with a county that is developed by both federal and state agencies naturally places some emphasis on individual problems and an increased level of sensitivity is developed that makes it easier for these counties to assess available resources.

There are some dangers with this type of activity. The characteristics associated with less developed areas are prevalent in rural counties, i.e., limited transportation linkages, low educational attainment, weak retail trade base, lack of access to capital markets, poor health care systems, and a general lack of amenities that contribute to a high quality of life. The danger is that limited state and federal resources will be devoted to areas where the development potential does not exist. In this instance, however, there is a responsibility at all levels of government to create a higher quality of life -- adequate water supplies, roads, etc. We must be careful not to invest in businesses

that don't really have a potential for success and not to invest in industrial parks in areas where a well developed industrial park is not sufficient to attract industry.

The Rural Development Initiative is making a contribution to development in Alabama's rural counties. Within the next year the Initiative will be extended to six or seven additional counties. This program is evidence of Governor Hunt's continuing efforts to provide a greater level of services by better utilizing existing resources through increased levels of coordination and better planning.

Governor's Rural Development Initiative Projects

1) During March 1989, the Governor's Rural Development Initiative (RDI) visited the town of Georgiana. An ADO Project Manager that was on the Task Force found a building that had been vacant for five years. Immediately, the Project Manager contacted one of the prospects that was looking for the type of building that was located in Georgiana. Pridecraft Enterprises located its business there and employed 165 people.

2) During August 1989, the same results occurred in Slocomb, Alabama, as did in Georgiana. An ADO Project Manager found a vacant building and Champion Products eventually located there employing 200 people.

3) The Governor's RDI, along with ADECA, provided funds for water and paving for Winston County to help Southern Living. This company located in the county and employs 150 people. Also in Winston County, the Southern Development Council worked with Dover Furniture of Arley and Craftwood Design of Haleyville in acquiring loans to expand and provide 75 jobs in the county.

4) In Greene County, the Southern Development Council worked with Lockwood Sawmill in Boligee to employ 25 people.

5) Tyson Foods of Heflin, Cleburne County, has hired 53 people through JTPA and is making plans to expand. The Governor's RDI, along with ADECA, plans to play a major role in this expansion.

6) Most all of our rural counties have problems with their infrastructure due to a low tax base. This results in people shopping out of the county. The Governor's RDI printed 500 11" x 17" posters per county to promote shopping at home and stressed the importance of taxes from local purchases.

7) In 1989, the Governor's Teachers Internship Program was active in our RDI counties. Math and Science teachers worked in industries for six weeks to learn of new skills and technologies along with better ways to prepare students for the workforce or higher education.

8) The Governor's RDI assisted in acquiring Cedar Creek Leather three-phase power in Conecuh County. ADECA, along with EDA, provided funds for water and sewer expansion to the City of Evergreen to help provide 180 jobs.

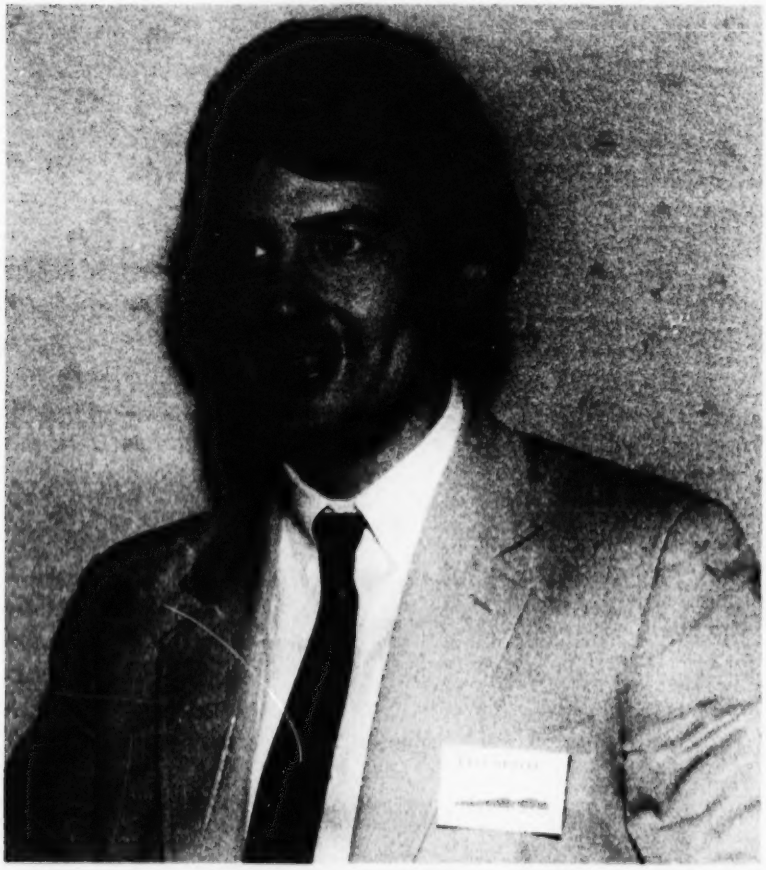
9) ADECA provided funds for an access road to Louisiana Pacific in Braggs, Alabama which provided 60 jobs for the people of Lowndes County.

10) Recreation and Tourism Feasibility Studies were done through Auburn University in Lowndes, Cleburne, Lawrence, and Winston Counties. A retail trade survey was done in Lowndes County and water feasibility studies were done for Winston and Lawrence Counties.

BASIC TRENDS IN ALABAMA'S RECENT ECONOMIC PROGRESS

Paul Gentle, Staff Economist
Alabama Department of Economic and Community Affairs

I am in accord with the last speaker from yesterday. Both Kimberly Reda-Wilson and I agree that economics can be relevant. To me, a good social scientist must have good social abilities. These include being able to communicate. I hope that you find some of my thoughts today useful.



Twenty minutes ago, I received by fax machine most of the speech that the Director of ADECA was going to give -- until he was told the weather was unsuitable for flying. The topic of his speech was the Governor's Economic Development Program, which is both broad and well thought out. In fact, Alabama's House Speaker, Jimmy Clark, has praised Governor Hunt for his progress in economic development. Today, I am going to depart from going over the Governor's entire economic development program and will instead just point out a few facts about Alabama's progress.

The two main themes of this Rural Development Conference are jobs and training. Let us first look at jobs. In the first three years of this Administration, there has been a steady trend of new private investment in Alabama:

1987 - $2.4 Billion
1988 - $2.4 Billion
1989 - $3.2 Billion

Job creation has also been steady:

1987 - 19,604
1988 - 27,830
1989 - 28,280 (1)

Some people have tried to downplay this record of progress by pointing out that some jobs were lost during these same periods. To settle the matter, we should look at the United States Department of Commerce records. I have gone back as far as my data allows - 20 years. This

is what I have found in regard to annual job growth rates during the quadrenniums of different administrations:

Governor	Quad.	All 4 Years	First 2 Years
Wallace	1971 - 74	2.36% growth	2.03% growth
Wallace	1975 - 78	2.47% growth	1.28% growth
James	1979 - 82	.28% decrease	.49% growth
Wallace	1983 - 86	2.55% growth	2.74% growth
Hunt	1987 - 90	Data Available Only Through 1988 (2)	2.81% growth

Although the final data is only available for the first two years of the current Administration, the growth trend is expected to continue. The record is clear.

Bibb	Hale
Bullock	Lamar
Cherokee	Lowndes
Choctaw	Marengo
Clay	Marion
Cleburne	Perry
Conecuh	Pickens
Coosa	Randolph
Crenshaw	Sumter
Geneva	Washington
Greene	Wilcox

These counties are among the least wealthy in terms of per capita income and they tend to have lower educational test scores. Let's look to see how the spending on education, the test scores, and the per capita income correlate:

TABLE OF AGRICULTURAL /TIMBER COUNTIES

	22 Agriculture/ Timber Counties	Other 45 Counties	State of Alabama	Percentage Difference Between Ag/Timber & Other Counties
K-12 Spending	$3,273	$3,422	$3,407	-4.45%
Stanford Achievement Test Scores for Grade 10	42	52	51	-19.23%
Per Capita Income	$9,205	$12,220	$11,947	-24.67%

Whether you compare the current Administration's job growth record to the entire quadrenniums or to the first two years of those quadrenniums of the last twenty years, Governor Guy Hunt has proven himself to be effective in the job creation area of economic development.

The second major theme of this conference is education. This is especially interesting since the results have been different in regard to spending on education in the most rural counties versus the rest of the state. Alabama has 22 counties that are heavily dependent on agriculture and timber: (3)

The difference in spending between all school systems in the rural counties and the rest of Alabama is only 4 percent less per pupil; whereas, the difference in the Stanford Achievement test scores is much greater -- 19% less. On the other hand, the per capita income difference is much greater than per pupil spending. In the rural counties, the per capita income is 25 percent less. As Charles Law, Executive Director of the Southern Education Improvement Lab, said yesterday, the family setting has been proven time and again to be the number one factor in success in education. Coming from a family that has enjoyed greater economic prosperity is part of that family background. The counties that have spent

only 4 percent less per pupil on education have not had nearly the same marginal product per dollar as the other counties. (5)

Another important point concerns Alabama's overall ranking on the Stanford Achievement test. Alabamians so constantly hear that we are near the bottom in per pupil education spending that many do not realize that this in no way proves that we are near the bottom in quality. The 10th grade test is the last such test students take. This is a good test to look at since all children, not just those going to college, must take this test. The overall national percentile for this test would, of course, be 50. Alabama had a score of 51 for the test taken during the last completed academic year -- 1988-89. Thus, this is above the national average. When most Alabamians wonder where we rank in terms of education, they are concerned with quality rather than any other measurement. Being above the national average is far from being anywhere near the bottom group. Since the overall weighted average of Alabama per pupil spending is $3,407 and the national average is $4,509, it is clear that more money being spent on education does not directly correlate with better educational output because our test scores are better than the national average. (6)

Of course, several speakers at this conference have already pointed out that simply more spending on education is not the answer to helping Alabama's rural communities. Stafford Thompson, the State's Vice-Chancellor for Secondary Education, pointed out yesterday that there is not enough interaction between business leaders and the educational system. Students need knowledge and critical thinking skills to handle jobs in a more capital intensive manufacturing setting or in the expanding service sector.

Governor Hunt has called for more of this type of interaction and for other types of accountability for education. Although the Administration has met with some resistance, we will continue to work towards a more responsive education system.

The Administration also realizes that it is easier to produce jobs in an urban setting rather than in a depressed, rural setting. All of Alabama must share in the state's progress. One of the innovations of the Hunt Administration has been the Rural Development Initiative. "The Governor's Rural Development Initiative was established to assist Alabama's most distressed counties in dealing with their development problems. The program has resulted in 1,602 jobs so far in these counties." (7) Scott Stewart, who works with the Rural Development Initiative, has taught me much about this program in just the short month I have been with ADECA. I know you will find his conclusion to our presentation interesting.

END NOTES

1. Alabama Department of Economic and Community Affairs.

2. U.S. Department of Commerce.

3. Mack Holmes, Ph.D., Troy State University Center for Business and Economic Services.

4. Education spending figures for Alabama schools come from the Alabama Department of Education for Academic Year 1988-89. The spending figures for the National weighted average come from the National Education Association. Stanford Achievement Test Scores come from the Alabama Department of Education. The per capita income figures for 1987 come from the U.S. Department of Commerce.

5. It may be of interest to note that using the Fiscal Year 1987 figures of the Public Affairs Research Council of Alabama (See PARCA Report, Number 4, Summer 1989), the weighted average for the amount of money raised per mill, per pupil, is $14 in the 22 agriculture/timber counties and $18 in the rest of the state. Two forces are at work here in determining the yield per 1 mill. The assessed value of the land is less in the agriculture/timber counties, but each amount of acreage has to aid in the support of fewer pupils.
6. National spending figure comes from the National Education Association for 1988-89.
7. Alabama Department of Economic and Community Affairs.

Presentation Not Available

J. Mac Holladay
Director of Mississippi Department of
Economic Development

A Local Development Board's Perspective:
An Outline of Coments

Tucson Roberts
Director Jackson County Alabama
Development Council

I. Jackson County Economic Development Authority
   - A. New industries
   - B. Existing industries

II. Jackson County
   - A. Geography
   - B. Economic base
   - C. Existing labor

III. Training Resources
   - A. High schools
   - B. Jackson County Tech School
   - C. Northeast State Junior College
   - D. AID Training

IV. Problems
   - A. Basic values of students/ workforce
   - B. Fundamental skills
     1. Math
     2. Science
     3. English
   - C. Current equipment
   - D. Current curriculum and specialized training
     1. Construction welding, specialized welding
     2. Electricity, electronics
   - E. Industry/Education relationship

F. Perception of union orientation of post secondary trade schools
G. Inflexible response to industry
H. Job placement as measure of success
I. Teacher tenure in vocational - technical
J. Perception of technical training
K. Curriculum update

V. Recruiting Point of View

A. Geographic resources
1. Land
2. Rivers
3. Complement urban areas
4. Natural resources
B. Labor nonunion, lower wage
C. Cost of living

RURAL TENNESSEE - WHAT'S HAPPENING Jobs - Education - Economic Development

Marilyn Nixon
Director of Job Training Partnership Act Tennessee Service Delivery Area 7 Upper Cumberland Development District
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Rural communities, historically, have been an important element in a strong America. They have provided balanced and diverse opportunities and living experiences for their residents. These opportunities have included affordable housing, adequate health care, quality education, a healthy environment, recreation, and above all, jobs. Jobs are what sustain a community and provide an identity for that community and its residents. Without jobs, no community can survive.

James Abdnor, Administrator for Small Business Administration, said, "In rural America, small businesses provide rural communities with their lifeblood." Small businesses were responsible for 94% of the new jobs created in the U.S. from 1980 to 1986. "Yet, very small firms employing 20 employees or less were responsible for almost two-thirds of all rural jobs growth." Ironically, the number of small businesses in rural communities grew by only 8.5% between 1980 and 1986, while the number of small firms in urban areas grew 18%. Serving the needs of these small businesses requires spending time determining their specific training needs.

Our economy, over the next 10 to 11 years, has the potential to create over 16 million jobs. It is estimated that the workforce, however, will increase by only 14 million individuals. This indicates that the supply of labor will grow more slowly than at any other time since World War II. That is half the rate of the 1970s.

In addition, due to the decline in population, the workforce will average 39 years of age by 2000. Women will make up 47% of the entire workforce and 60% of working age women will be at work. Necessity will require the employment of many currently defined "high risk" individuals. Of the new entrants into the workforce, 80% will be women, minorities, and immigrants.

Only 27% of all new jobs will fall into low skill categories, compared to 40 percent today. Jobs that are in the middle of the skill distribution today will be the

least skilled occupations of the future. The majority of new jobs will require some post secondary education for the first time in history.

An older, less adaptable workforce will face a job market that requires increasingly flexible skills, with many workers changing jobs five or six times during their worklives.

More time, attention and funds must be directed to improving human capital if we are to be a productive and competitive force in world economics.

The U. S. economy is expected to continue to grow at least at its current rate through the year 2000. Nonetheless, the efficiency of our labor market will be severely tested. More sophisticated jobs will demand greater skills. Fewer young people will be entering the labor market, and a growing number will be minorities, who, as a group, are educationally disadvantaged. Greater flexibility will be demanded of all workers, but particularly the middle-aged workers. In the anticipated tight labor market of the year 2000, employers will be forced to either seek out and invest in workers that have been underutilized, or to bid up wages or export jobs overseas.

Employer based training is one such method of investing in workers. Recent study findings indicated that it is a primary source of productivity improvement. However, there are gaps in the research needed to fully understand learning in the workplace. More information is needed on how to make learning on the job more effective and efficient for both workers and employers.

Recent studies have predicted the need to increase the following: workers' skill levels for the jobs of the near future, worker flexibility to new working conditions, the involvement of population groups not now fully utilized, employer involvement in worker training, and options for fringe benefits.

Changes in the economy and technologies have displaced many workers. Many of these workers, displaced from manufacturing sectors, are ill prepared for evolving jobs, primarily in the service sector.

Other workers face conflicts between their jobs and family responsibilities, including the care of children and elders Since the mid 1940's the labor force participation rate for women has grown dramatically. In 1987, 66.7% of women with children participated in the labor force. The rate for mothers with young toddlers was 55.2%, more than double the rate of only 20 years ago. Contrary to popular belief, most working women work full time, and only a small percent work part-time voluntarily. Estimates for the remainder of the century indicate that women will increase their labor force participation, but at a slower rate.

As we move toward a global economy, there will be increased competition among not only states and regions, but communities and counties for business and industry. Decisions will be made by those businesses and industries to locate where profits can be maximized. The impact of those decisions will be reflected in the quantity and quality of jobs within the area.

Our search for jobs will force us to be competitive. Our competitive edge will have to lie in our ability to provide a workforce which is significantly more educated and better trained and will rest in our capacity to produce speciality goods which require technology and a workforce capable of using that technology. Our competitive edge exists because we control technology and related change, and we can develop job training and educational programs which respond to the technology and change which we are developing and implementing.

There is an inadequate supply of qualified workers, but there is also a growing mismatch between jobs and potential workers. The major symptoms of this mismatch are evidenced by massive functional illiteracy, long term dependency, and failure to complete high school. There is a clear possibility that some groups may be permanently prevented from leading productive lives.

While current trends (such as the mismatch) pose a serious threat to continued economic growth and prosperity, they also offer an unprecedented opportunity to provide employment to all those Americans who, in the past, have remained at the margin of our society.

According to the Regional offices of the Departments of Commerce, Education and Labor, by the year 2000, two-thirds of the people in the continental United States will live in Southern states and 18 of every 100 will live in eight Southeastern states. As a result, the growing mismatch between workplace needs and workforce capabilities requires extra attention in this region.

Improving the educational preparedness of workers is a challenge we must meet to be competitive into the 21st century. This is most important for our young people. Today's youth at risk of dropping out of school are our entry level workers of the next two decades. They face jobs demanding higher skills in math, reading and communication. Yet recent studies have shown that many of these youth are reading, writing, and computing at levels below present day expectations. Further, many of these youth are disillusioned with school and fail to see education's connection with good paying jobs.

A number of factors have been found to be related to dropping out of school. Minorities and males have a higher dropout rate according to the latest data. Other characteristics found to be associated with the increase in dropouts are: increased age; lower socioeconomic status, as measured by parental education and a measure of reading material in the home; living in the South; living in a rural area; living in a single parent household; and having a large number of siblings. Also, less knowledge of the world of work, educational expectations, being married, and a lower local unemployment rate (which may reflect the opportunity cost of remaining in school) increase the probability of dropping out. Students that have a family income below the poverty level can be expected to have higher dropout rates due to their greater financial need.

Further efforts must also be focused on young people who complete high school but do not go to college. Businesses report that their level of job preparedness is frequently inadequate.

Specific background and school-related variables can be influenced by public actions. Educating students about the labor market might reduce dropout rates and increase the proportion of youth going on to college or attending other post secondary training opportunities.

Business leaders believe that schools should emphasize the importance of good personal habits such as self-discipline, reliability, perseverance, accepting responsibility, and respect for the rights of others.

As the remainder of this century unfolds, it is expected that jobs requiring higher levels of literacy and analytic skills will increase, and those requiring only strength and manual ability will shrink. Further, the population groups presently in jobs with lesser skill requirements can expect a more difficult time in the job markets ahead unless their literacy skills are increased. In addition to increased skills, increased flexibility will be required to enable workers to adapt to new working

conditions, new technology, and new environments.

The focus on the workplace as a place for continued learning has become even clearer as the United States has moved from a manufacturing to a service economy and the demand for workers will shift frequently in response to customer demand. Through 1995 about 90% of new jobs will be in the service sector, compared to 8% in manufacturing. In both the service and manufacturing industries we are moving from a production-oriented to a product-oriented world, from mass production to flexible production. New technology has changed the nature of work - created new jobs and altered others - and, in many cases, has revealed numerous basic skills problems among experienced, older workers where none previously were known to exist. Also, worker mobility will be necessary to fill these jobs. Effective mobility will require a universal method of certifying skill levels in order to facilitate the movement of workers from one employer to the other.

Improving the workplace literacy levels of all ages continues to be a major priority. As technology changes, workers are required to keep up with it to retain or grow in their jobs. Workplace literacy includes math and analytical thinking skills along with the ability to read, comprehend, and communicate. Studies have shown that learning these skills "in context," (i.e.: relating them to the workplace) is an effective approach for many learners.

In Tennessee efforts are being made to expand public awareness and services. Tennessee has a high dropout rate (projected at 25%) and the growing number of adult illiterates and functional illiterates has been increasing at an estimated annual rate of perhaps five to ten percent. Plans have been developed to have full-time year round literacy programs in all counties, to have workplace literacy programs in all major businesses and industries, to provide peer counseling, and to provide tutorial services for at-risk high school students who have failed the proficiency test.

Due to the high number of women in the labor force, those representing the two parent families and more significantly the single mother, the need for quality child care plays an important role in employment. Conflicts arise because workers have personal and family problems and responsibilities that affect them during their working hours - most of these problems are related to child care.

Employers have found that some of the benefits of having sponsored child care facilities, information and referral services, seminars, or other child care programs are: enhanced recruitment, improved morale, lower absenteeism, improved productivity, lower job turnover rate, favorable publicity, and improved public image.

A good example of literacy and child care involvement is a manufacturer of solid wood dimension parts for furniture in one of Service Delivery Area 7's counties. This company was faced with possible closure due to the high number of employees that were assessed to be functionally illiterate; also child care facilities were limited and presented problems for the workers. In response to their situation, an adult learning center and child care facility was opened. Employees now have a licensed day care facility on-site and attend individualized basic skills instruction. To date, the results have been very good. The factory is becoming productive, but the investment in human capital is immeasurable.

The new proposed Job Opportunity and Basic Skills (JOBS) program is

designed to assist welfare recipients to become self-sufficient by providing needed employment-related activities and support services. Child care, of course, is one of the big issues involved, and the regulations specify that the states must provide funding for such. This is a start, but we must continue to explore and develop new approaches in order that all parents/children can benefit.

The Job Training Partnership Act (JTPA) was formed on the belief that employment and training programs can aid the economically disadvantaged, the unemployed and underemployed if programs prepare participants to meet the employer's needs. Customized training as an economic development tool can successfully assist in job creation and economic development.

The Job Training Partnership Act created the opportunity for employment and training programs and for employers to significantly influence how the program works. Its quality and its usefulness is to be designed for local employers. Customized training allows the private industry council to provide appropriate, timely and valuable skill training programs to a wide range of participants and businesses. The cooperative effort, linkage and support have insured consistently high quality, labor market sensitive and business need driven programs.

JTPA program administrators across the nation share a common view in that job training is an important component of any effort to increase the quality and quantity of jobs within their service delivery area. However, that is where the similarities end. Each comes from a uniquely different part of the country, with very different problems and traditions to address those problems. In turn, each offers different solutions to the problems at hand.

Fundamental changes occurred in rural America during the 1980s. Farm foreclosures, a growing federal deficit, and bank and business failures created new problems for rural employment and training systems. Financially stressed state and local governments lacked the resources to fund new programs or initiatives to address these problems. Responses to rural problems also expanded beyond agricultural revival solutions. The local role in economic development became increasingly important for Job Training Partnership Act programs.

We must view change as an opportunity. It may require substantial investments in our community's infrastructure and people, but it can prove very beneficial to communities willing to make those investments. JTPA cannot build new bridges, water systems, electric plants, roads, and other infrastructure items of importance to rural areas. But it can provide a mechanism to train unskilled workers to become skilled workers, and to foster positive change by establishing strong partnerships between elected officials and business and community leaders.

JTPA can be the vehicle by which community leaders come together, through the private industry council system, to develop a consensus about the directions local economics should take. JTPA can convene those who can develop the economic development strategy so that job growth and job development can take place.

JTPA can play a significant role in this process. Program operators can work closely with state and local economic development agencies to supply the training resources and related services to insure a well-educated and well-trained workforce for new or expanding businesses. The staff can work with the

private sector to develop customized training packages which insure an employer that he or she will have the workers needed. JTPA can provide a wide range of services from basic job search/job development/job placement to sophisticated classroom training. JTPA has the ability and flexibility to meet the specific needs of the employer and the types of jobs which must be filled.

The basic skills of today and tomorrow include the ability to process information as I alluded to earlier. Application of basic skills on the job is embedded in real job tasks; education and training programs are moving toward the functional contexts of adult workers to teach these skills as opposed to using a more school-based approach.

Research has found that the most successful workers are those who can process and organize information, monitor their own understanding, and who can explain the purpose of reading and writing for the accomplishment of a task.

On a small scale, but as a step forward, JTPA in Tennessee is introducing this functional context approach through the Summer Training and Education Program (STEP) for youth that are 14 and 15 years of age. Participants are placed in half-time work experience and half-time basic skills. The practical academic curriculum includes instruction in the higher order thinking skills that people need in order to function on the job and in society. These include such processes as summarizing, predicting, drawing conclusions, and problem solving. When possible, the basic skills learned in the classroom are implemented on the job site.

Coordination among welfare, JTPA, and education agencies is required by law and regulations. The JTPA legislation that is currently in effect strongly stresses the need to coordinate planning and service delivery with related human service programs. The coordination provisions of the Family Support Act also make it clear that Congress intended the JOBS (Job Opportunities and Basic Skills) program to be planned and implemented in a spirit of collaboration.

Positive things are happening, but there's still much to be done. Just to mention a few:

- We need to use public education funds to provide basic and higher order skills for "second chance" clients.

- We need to continue upgrading year around programs for dropout prevention and recovery.

- We need to continue school-to-work transition systems for economically disadvantaged high school students.

- We need to have alternative learning approaches for dropouts and employed adults who are in need of upgrading their workplace literacy skills.

- We need new community-wide initiatives for high-risk youth.

- We need to continually close the education gap and ensure that the young, educated people stay in our region.

- We must continue to be innovative.

- We must continue to fund literacy/remedial programs for both in-school and out-of-school youth and adults.

- We must foster cooperation and coordination among state agencies and the private sector.

- We must promote training investments which lead to long-term employability.

• We must continue to develop child care assistance programs and make them accessible and affordable.

• We must develop flexible work schedules and offer cafeteria benefit plans.

• We must have basic skills curricula and instructional methodologies that teach functional or work and life related activities.

JTPA is the control instrument of public policy designed to equip our economically disadvantaged older youth and adults with the skills needed for successful entry into the job market and to enable dislocated workers to become reintegrated into the economic mainstream. However, a host of other government programs - vocational education, the new JOBS program for welfare recipients, vocational rehabilitation and the Public Employment Service, to name a few, also bear directly upon the training and employment of American workers.

No single system or political initiative has enough expertise or resources to accomplish all the goals or objectives. The answer lies in working together. By pooling of knowledge and resources, more cost effective programs can be implemented and more individuals can benefit from services.

What is required is the establishment of partnerships - between industries, public and private sectors, media and educators, religious and civic groups - that will encourage change with lasting impact. The opportunity exists. What remains is the task of building bridges and developing an agenda to build a strong, productive workforce for the future. Together, we can make it happen.

Southern Rural Development Center Links Education and Economic Development

Doss Brodnax
Director Southern Rural
Development Center

as presented by

Bonnie Teater
Administrative Assistant
Southern Rural Development Center

The Southern Rural Development Center (SRDC) is one of four regional rural development centers in the nation. Each of the centers provides support to rural development efforts at land-grant university Extension Services and Experiment Stations throughout the nation. The Southern Center is located on the campus of Mississippi State University and jointly sponsored by Alcorn State University. The director of the SRDC is Dr. H. Doss Brodnax, and the associate director is Dr. Jerome L. Burton, who is located at Alcorn State University. The other centers are located at Pennsylvania State University, Iowa State University, and Oregon State University.

The SRDC was established in 1974 and exists primarily to provide the best possible information and assistance to Extension and research staffs within the South as they respond to rural develop-

South as they respond to rural development needs in local communities. To accomplish this, the Center:

1. communicates research findings and successful Extension programming ideas through conferences, workshops, seminars, and publications.

2. serves as a linking mechanism for improved communication between states.

3. facilitates interaction between research and Extension personnel.
4. provides funding for development of programming ideas with widespread regional application.

5. provides "seed money" funding for rural development research projects addressing priority issues in the region.

Effective regional participation is a critical factor in the success of the Southern Rural Development Center. With this participation, comes the linkages between the education and training opportunities of the Center and their impact on the Southern region. I would like to highlight specific ongoing activities of the SRDC which provide linkages between Extension and research personnel as well as with other agencies and organizations.

Conferences

The Southern Rural Development Center uses workshops and conferences as an integral part of its program. During the past year, the Southern Extension Directors requested the SRDC to provide coordination for two regional efforts - rural revitalization and water. This opportunity allowed us to network with specialists from all four Extension program areas throughout the region in planning and implementing training activities in these two areas of current rural development concern.

The Center also cooperates with other regional agencies and organizations to provide workshop speakers and staff time to assist in workshop planning and publishing conference proceedings. The Agriculture and Rural Development Committee of the Southern Legislative Conference meets annually to discuss issues of regional importance. The Center supported the travel for two land grant resource persons to participate on their program. The SRDC published the proceedings from the two-day conference. This conference proceedings was not only distributed to our land grant staff, but to policymakers from across the Southern region.

The Southern Rural Development Center recently was involved with a conference supported by the Lower Mississippi Delta Development Commission. The SRDC nd the North Central Regional Rural Development Center cooperated with the Commission to hold a conference entitled "The Role of Agriculture in the Social and Economic Development of the Lower Mississippi Delta Region." This conference brought together persons from throughout the Delta area to discuss an issue of mutual concern. The conference was attended by persons from the land grant institutions, Soil Conservation Service, Farm Bureaus, Tennessee Valley Authority, and private agricultural organizations.

It has been the desire of the Center for these conferences to provide educational presentations and opportunities for persons to meet and discuss issues of mutual importance. The Center has also supported travel for resource persons to participate in regional meetings.

Regional Task Forces

Four regional task forces were established by the SRDC to address the following needs:

a. Strategies for Job Creation and Retention in Rural Communities in the South;

b. Formulation of Alternative Approaches for Maintaining and Enhancing Small-Scale Producers' Roles in Southern Agriculture Through On-and Off-Farm Initiatives;

c. Alternatives for Leadership and Human Resource Development in Rural Communities in the South; and

d. Alternatives for Financing Infrastructure Development in Rural Communities in the South.

The Center just recently announced formation of another task force to address the issue of rural health care. We are now in the process of naming members of the task force and setting the first meeting date.

These task forces are important in linking persons from Extension and research from various institutions all over the region. From these task forces we have been able to set goals and priorities and provide further opportunities for networking. As an example, the Financing Infrastructure network is providing an opportunity for education and training of public officials in the area of infrastructure. A conference has been set for Birmingham, May 1-3, which will allow our task force, made up of Extension and research personnel, to interact with local officials.

The Leadership and Human Resource Development task force took initiative in writing a publication entitled Building Partnerships for People: Addressing the Rural South's Human Capital Needs. This report maintains that in order for the South to realize economic and social progress, the issue of building human capital must be addressed. Studies have shown that persons who leave high school prior to graduation usually are doomed to a life of economic hardship and deprivation. Education and training must be strengthened if social and economic progress is to be achieved.

Research and Extension Research Projects

The SRDC Board of Directors periodically funds proposals of regional importance as recommended by a sub-committee of the Regional Rural Development Program Advisory Committee. The Program Advisory Committee is composed of representatives from each of the 29 land grant institutions from the Southern region. Dr. Fred Harrison from Fort Valley State College is the current chairman of our Regional Rural Development Program Advisory Committee. This committee recommends priorities and direction for the Center, and based upon their recommendation, a request for proposals is distributed. In FY89, eight projects were funded from a wide range of rural development issues. Some of those projects are as follows:

- Educational Materials to Help Small Farm Operators Assess Alternatives;
- Helping Black Adults Age 35-55 and Youth Age 16-19 Develop Personal Skills to Upgrade Employability;
- Human Capital Investment and Rural Economic Development; and
- The Economics of Goat Meat Production for Small Scale Producers.

Pending FY90 funding approval, seven projects will be funded. Samples of those projects are as follows:

- Rural Economic Development for Community Self-Reliance;
- The Status of Education in the Rural South;
- Potential for and Impacts of Foreign Direct Investment in the Nonmetro Southeast;
- Participation of Rural Households in Small Business Employment and Income; and

- Improving Rural Tourism Extension and Research in the South.

Persons with funded projects are required to submit a final report to the Center. In most cases, this report is published and distributed throughout the region. This allows widespread dissemination of the results of Center research and Extension projects on important rural development issues.

SRDC Newsletter

The Southern Rural Development Center publishes a monthly newsletter CAPSULES which is designed to disseminate information in brief form. The publication provides capsuled information to approximately 2,400 persons who are working in the area of rural development. Material is selected from a wide range of sources and on a variety of rural development topics. Through its brief articles it provides a link between research, private industry, and Extension specialists.

Publications

The Center supports the publication efforts of regional Extension and research committees. In addition to the conference proceedings and regional project reports, the Center publishes educational materials of importance to rural development professionals. We have worked with the Southern Extension Public Affairs Committee, the Southern Extension Marketing Committee, the Southern Extension Farm Management Committee, the Southern Natural Resource Economics Committee, and others. Single copies of publications published by the Center are available within the Southern region free of charge to land grant institution personnel. Persons outside the region or land grant system pay a nominal charge on a cost-recovery basis.

As I've tried to illustrate, the Southern Center is in the business of forging partnerships and links between people, between organizations, and between states. In order to avoid duplicating efforts and plowing the same ground twice, the Center gets people together to share ideas and information. The land-grant university system has a vast reservoir of resources, and the Center welcomes the opportunity to network these resources.

The Regional Perspective to Rural Economic Development

Ray Bryant
Natural Resource Specialist
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The regional approach to development is not a new one. Our founding fathers realized that even in the 18th century, a nation divided cannot stand but will crumble and fall. By the use of this principle, the nation has grown to be the world leader and had held that position now for many, many years.

In the 1930's, the United States Congress recognized that not only did this apply to the nation, but it also applied to sections of the nation. The Tennessee Valley Authority was formed, based upon that proven principle, with the goal to protect a region from flooding, create hydroelectric power, and to help eliminate poverty. As we look back on history, we must conclude that the principle has once again proven to be true - this time on the regional basis. We will hear more about TVA's story later in this session of our conference.

Again, in the 1960's, Congress felt a need to apply this principle and this time aim it toward economic development of the Appalachian region. After 25 years, history can now measure this experiment to be a true success. This region is now no longer the seat of the poverty of our nation. By working cooperatively as a region, sharing ideas and resources and in partnership with the Federal government to bring about change, the region now enjoys a new prosperity. Did it bring about change? The answer is yes - a resounding yes. It brought about: good change, positive change, and it brought with it economic growth.

As the decade of the 90's begins, this nation is once again applying this principle - this time to a region called the Lower Mississippi Delta, a 219-county region that runs from the southern portion of Illinois to the Gulf Coast in Louisiana. It winds its way down the mighty Mississippi encompassing portions of the states of Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana.

Now identified as the most poverty ridden section of our nation, Congress has said that it is time for the rest of the nation to focus new attention on this region so that by working together, it too can be freed of its economic bondage. A region divided cannot stand - a people divided cannot stand - but, joined together, we can accomplish almost anything.

Congress formed the Lower Mississippi Delta Development Commission in October of 1988, with a make-up of one commissioner from each of the member states and two presidential appointees. Each state has one alternate commissioner to serve when the appointed commissioner is unable to serve. The governors of each state appointed the commissioners, and in three cases, the governors appointed themselves as the commissioner. Governor Bill Clinton of Arkansas serves as Chairman of the commission, Governor Ray Mabus of Mississippi serves as Vice-chairman, and former Tennessee Congressman Ed Jones serves as Secretary. Governor Buddy Roemer also serves as commissioner from Louisiana. A mandate from the Congress outlined the responsibilities of the commission. However, when reduced to its simplest form, the commission's task was to develop a 10-year economic development plan for the region.

A look at the data from this delta region shows that 21% of the delta residents live below the poverty level compared to

17% in the Appalachian region, and for the African-American population of the delta, the figure jumps to 42%. Unemployment is at 8.3% for the delta compared to 5.2% for the nation. The high school dropout rate in the delta is 5% higher than for the nation.

As the Lower Mississippi Delta Development Commission has attempted to answer its mandate by inventorying the resources and needs, it has identified the education of the delta, especially the work force, and the creation of new jobs as at or near the top of the needs category. It is not so surprising that this is true, because if you were to look back at Appalachia in the 1960's, the same problems would have existed. How to overcome these problems and move toward economic recovery is the big question facing the delta commissioners.

In the next few minutes, I would like to enumerate some of the ways that this may be accomplished. First, let's look at training and/or education.

1. By expanding and improving post-secondary education or vocational training, the potential work force that will not be attending higher educational institutions will become job-literate and employable.

2. For workers that are illiterate, provide incentives to those that avail themselves of opportunities to become trained to read and write.

3. For businesses and industries that offer literacy training, provide incentives, especially to those that offer employees opportunities to advance to and through the GED program and receive a high school diploma.

4. Provide career education and counseling opportunities and job placement services.

5. Identify successful private sector training programs and try to expand them throughout the region. An example of one of the most successful ones is the Pumbley Companies located in Paris, Tennessee and in northern Mississippi. They have been successful in helping many employees learn to read and write, helped others obtain a GED diploma, and still others to become proficient in computer skills. They have also expanded out into the communities and assisted with purchase of computer equipment that is now available for training opportunities for the entire community. The pay-off for an industry that provides these opportunities is a better, more highly skilled worker that is less likely to make mistakes because of ignorance and lack of communication skills and is more efficient. Improved worker satisfaction and pride leads to an easier work force to manage and supervise and eventually produces a greater profit.

6. Provide all citizens an opportunity to avail themselves of literacy training.

7. Create magnet schools that will provide state-of-the-art educational opportunities. These would target students that may go on to the colleges and universities and also provide skills training for those that will enter the work force right out of high school.

Now, let's look at some ways we may be able to expand job opportunities within the region.

1. *Value-added industries* especially concentrated in the areas of agriculture, forestry, and aquaculture. Agriculture in the region exports most of its produce to other areas of the nation or overseas for processing at this time. There exists a tremendous opportunity to develop new jobs by keeping these process functions at home.

2. *New sources of venture capital* are needed through an infusion of out-of-the-area dollars into business and industrial development. Development banks are one such source. The venture capital sources are able to provide funding to start new businesses and industries.

3. Provide incentives to new businesses or industries to locate in the delta or for expansion of already established ones.

4. Provide incentives for persons with scarce skills to return to the region. This may be in the form of educational scholarships, forgiveness of educational loans, or other ways.

5. Modernize the infrastructure needed to entice new business and industrial development. This may be roads, sewers, telecommunications, air and rail transportation, energy, and other needs.

6. Development of alternative fuels such as ethanol. This will especially impact the agriculture industry.

7. Provide data base for providing information to businesses and industries interested in the delta.

8. Develop alternative agriculture crops such as small fruits and vegetables. These are especially helpful to minority, limited resource, and small family farmers.

This should be enough for you to get the idea that the task is not an impossible one. Keep in mind that all of these ideas have been presented to the delta commission by people that live within the region and are interested in seeing economic conditions improve. These came from a citizenry that is willing, yes even anxious, to help bring the region back into the national fold and become a full partner in the economic development of the nation. They came from people who are willing and able to work together to see the goals accomplished. They came from people who are not selfish but benevolent. They came from people who believe that United We Succeed, But Divided We Fall. They came from people who know the problems and know the solutions but need some additional help and a cooperative spirit to make their efforts succeed.

The regional approach to problem solving does work, it works very well. The Lower Mississippi Delta Development Commission and its staff believes this and the people of the region believe this. It has been a pleasure to join you in this conference, representing the commission and its Executive Director, Wilbur Hawkins, and share with you some of our hopes and beliefs. I know that each of you attending this conference believes that good training and new job opportunities help build more vibrant and stable communities by building up the people that live and work in them. The entire South must think and work together and form a new interdependence to succeed, and by the same token, the delta must do the same to realize the economic prosperity of the 21st century.

Rural Growth Through Skills Development

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Introduction:

The winds of change have continuously blown across the landscape of America. These winds have had varying effects on the land and its people. No more evident are the implications of change than its influence on rural America, especially the rural South. Over the past two decades, the people of the rural South have experienced rapidly changing economic conditions which now threaten their very existence.

Increased farm mechanization transformed the rudimentary economic principles of agriculture, posing a serious danger to the small family farms of the South. In order to preserve their farms and maintain their rural lifestyles, people initially sought off-farm work to supplement their incomes. In the 1970s, the South successfully attracted industry based on this reserve of energetic, eager, productive, low-wage workers. However, many of these same industries have now begun to move overseas to secure even cheaper labor. At the same time, the Federal government has seriously decreased or eradicated economic development programs, farm price supports, and education and training programs which in subsequent years helped mitigate the impacts of economic change.

In short, the rural South is currently facing an economic crisis. Its people cling desperately to acreage their families have possessed for generations, but which is only minimally fruitful in today's economy. Most have less than a high school education and are ill-prepared for the unique skills demanded by the industries that remain. Resourceful and innovative ways of strengthening rural economies and preparing individuals for the impending future must be sought and must be sought quickly. In the short term, jobs must be created and methods to supplement farm incomes must be demonstrated. In the extended term, education and training programs must be put in place so that the next generation in the rural South can compete in the changing global marketplace.

In many respects, these problems appear almost insurmountable. Problems associated with varying elements of society and the economy consist of population and labor force characteristics as well as community resources.

Populations in Need of Assistance:

Women - Between 1989 and the year 2000, females will make up 42 percent of the new American work force. (Business-Week, 1988, September 19, pp. 102-103).

Ethnic Diversity - The trend toward ethnic diversity will continue, with Blacks and immigrants comprising 45 percent of all new entrants into the work force.

Youth - The ethnic characteristics of the youth population will change, with Blacks and immigrants accounting for a larger share of the youth population. High unemployment, particularly among Black teenagers, will continue to be a major problem. In many rural areas of the Valley, youth are dropping out of school and rates of illiteracy are escalating. Many youth will continue to enter the labor force without benefit of a high school education. Lack of access to

required high school courses will continue to force many rural high school students to face college or the labor force ill prepared.

Labor Force:

Skilled Labor - The gap between what skills workers possess and those required by the business and industrial communities will widen (Johnston, 1987). Although some sectors of the Valley region are able to attract highly skilled professional workers, the rural areas remain depressed (Siegel, 1988).

School Dropouts - Within the Valley, approximately 190 of the 201 counties that TVA serves are considered to be rural. "In these rural areas, only 48 percent of the adult population 25 years or older have completed high school" (Ferrar, October 3, 1989). In 1985, the United States dropout rate was 29.4 percent of those individuals entering high school (Siegel, 1988). The rural Valley rate is higher. Four of the seven Valley states (Alabama, Georgia, Mississippi, and Tennessee) have dropout rates that are among the worst in the Nation. This dropout problem will continue to plague the Valley.

Illiteracy - Illiteracy rates will continue to hinder economic growth. Although much controversy exists over the statistics concerning illiteracy, approximately 23 million Americans are considered as functionally illiterate. There are approximately 3 million Americans who read at lower than a fifth grade level (Pugsley, 1989). The implication of this condition is alarming at best, but when one considers that 13 percent of the nation's 17-year old students graduating from high school are functionally illiterate, the problem becomes more elusive (A Nation at Risk, 1983, p 3.).

Retraining - The need for continuing adult education opportunities will continue to increase. By the year 2000, many entry-level jobs will require individuals that have acquired the skills of at least a two-year associate degree or certificate level prior to employment. To address the issue of training and retraining, U.S. employers are forced to spend approximately $30 billion a year on formal training of its work force (Carnevale, February 1989). There seems to be no reduction of these expenditures in the foreseeable future.

Manpower Shortages - The Region and Nation face both manpower shortages and work force quality shortfalls of substantial proportion. Therefore, any attack strategy must incorporate a dual implementation strategy dealing with the quality of the new job entrants while maintaining a steady retraining policy for seasoned workers. The net result will require massive retraining programs based on new approaches to avoid worker displacement (TVA, 1989 July). "The Nation is facing a monumental mismatch between jobs and the ability of Americans to do them" (BusinessWeek, 1988, p.104).

Underemployed - The rural areas that once depended on regional manufacturing industries, especially lower-wage, nondurable goods producers are faced with these avenues of employment leaving the communities for cheaper foreign labor sources. In addition, the shift to services will create a large number of low-paying, part-time positions, resulting in many people being unemployed, underemployed, or employed in jobs paying inadequate wages.

Community Resources:

Rural Education Resources - Expenditures for education in rural communities are far below average, which ultimately will result in larger amounts of local, state, and Federal resources being spent on job training, illiteracy, and other social services as well as welfare programs

(Rural... 1988). The rural areas are bound to suffer from a lack of resources necessary to address their respective problem at the local level. Yet, rural America is the sector of the economy most in need of resources to promote economic development and growth.

Upgrading of Vocational-Education Programs - In recent decades, we have probably overestimated the number of American youth who need and can benefit from a traditional college education, while simultaneously slighting the value of vocational education (voc-ed), which at its best gives many students solid skills for the job market.

Voc-ed will be upgraded, and will no longer be treated as the stepchild of college preparatory education, the dumping ground for the failing student. Work-oriented education will be seen as a cost-effective priority that can reduce the high school dropout rate, especially in inner-city school systems. Voc-ed will be restructured to emphasize technical skills that America will need to compete internationally, including training with computers and health care equipment; and voc-ed students will get a heavier dose of basic math, and reading and writing, which will come in handy for future training and retraining. Businesses will get involved in vocational education to assure themselves of an ample supply of labor for the future (Kiplinger & Kiplinger 1989, p.154).

Strategy for Capacity Building:

To address the disparities for economic development and growth in the rural community, capacities and infrastructures must be established to promote external investment and internal development. Capacities for economic development must be designed to attract or create new businesses within the community. In addition, capacities must be developed whereby local community economic systems can be transformed from a raw material distribution point or a finished product market area to a value-added distribution point for a global economy.

Education and training is one element within the rural community which can contribute to the capacity building process. Education's contribution to economic development includes such efforts as conducting employer demand research, development of dislocated worker programs, creation of strategies for school/business linkages, training existing workers, developing a skilled labor pool from which the economic activities can draw, providing technology transfer information, developing entrepreneurship attitudes within the community, and providing education activities to meet the changing trends which effect economic demands (Armstrong, 1988).

The use of the educational infrastructure and policy to achieve economic capacity and achieve industrial goals for an economic system is not a new idea in America. More than 70 years ago, Congress argued for Federal aid for vocational education. In so doing, many references to the condition of the Nation's economy were made (Rosenfield, 1984).

Additionally, in 1933, the Tennessee Valley Authority (TVA) was established to serve as a national model for the promotion of economic development capacity building within the rural Tennessee Valley region. This capacity-building process involved an integrated means of how resources could be developed in a comprehensive manner. TVA became a resource utilization model which focused on flood control, energy production, timber, soil conservation, economic promotion activities, tourism, agriculture, and human resource development and education (TVA, 1986).

During the process, TVA used education and training activities as a major

component of the progressive role the agency played in the last half-century of the Valley's development. Through the use of education and training as an economic development tool, TVA has acquired experience and know-how necessary for solving some of the economic development problems of rural America today.

TVA Skills Development Department:

Over the past five years, the Skills Development Department program operations, in alliance with local educational institutions and state agencies, have resulted in 37,000 Valley residents trained for new emerging employment opportunities; over 67,000 retrained for existing jobs; training assistance provided to an annual average of 165 Valley region industries; and career educational assistance provided to an annual average of 104,000 Valley region students. A few examples of the successful demonstrations of the past five years follow:

The *"FACTORY OF THE FUTURE"* at Chattanooga State Technical Community College has been a boon to the automated manufacturing industry. Portions of the work at the "Factory of the Future" have been utilized at 54 colleges and in 82 industries across the Nation.

Recently, ribbon-cutting ceremonies were held at Itawamba Community College in Tupelo, Mississippi, where the Skills Development Department was instrumental in helping establish the high tech *"FURNITURE FACTORY OF THE FUTURE"*. This program will help meet the skill and knowledge demands of the rapidly growing furniture manufacturing industry in northeastern Mississippi. Work Force Retraining efforts have resulted in large percentages of displaced workers receiving positive placements after retraining. Industrial training centers established at two-year, post secondary educational institutions in all seven states have received assistance in curriculum development and customized training programs in such areas as statistical process control, technical writing, and first-line supervision. These courses serve the regional labor needs of new, expanding, and existing industries. During the *"TRANSFORMATION AT COPPERHILL"* project in Copperhill, Tennessee, over 276 displaced workers were retrained and reemployed in new careers as a result of meeting labor market needs. The *"ALABAMA QUALITY AND PRODUCTIVITY CENTER"* at John C. Calhoun Community College; *"BARGE TRAINING"* at Western Kentucky Vocational and Technical School; the electronic training programs established at Southwest Community College in North Carolina; and the Hopkinsville Area Vocational School in Kentucky, are examples of the programs that resulted in training over 3,000 individuals annually to help meet the region's work force needs.

UPGRADE CRAFT TRAINING projects have addressed the deficiencies of displaced workers allowing them to be trained in new skills. These include new state-of-the-art welding techniques used in construction and maintenance; and skills required for pipe fitters, operating engineers, ironworkers, electricians, carpenters, boilermakers, sheet metalworkers, and machinists. These efforts have resulted in over 400 Valley residents being trained and placed in jobs annually.

Education and Training Demonstrations have included several projects researching the effectiveness of utilizing interactive laser disc instructional technology as an instructional tool. The *"FUTURISTIC INSTRUCTIONAL LAB,"* in Coalfield School, Morgan County, Tennessee, was designed to improve basic skills and provide for teacher upgrading. *"LEARNING STYLE ANALYSIS"* techniques to improve mastery of subject matter and computer-aided instructional

learning centers to address the future and current workers' basic skills were also demonstrated. Research conducted on these new instructional techniques and technology has resulted in national attention and the replication of these ventures in other locations in the Valley and Nation.

These demonstrations have had a positive impact on the people of the Valley as a whole. The Congressional Record and other national and regional publications cite numerous instances where TVA Skills Development Department initiatives have been recognized. State, Federal, and local education and training agencies have made policy changes as a direct result of these demonstrations.

To paraphrase Robert Frost, however, "There are miles to go before we sleep." The fact remains that the states within the Tennessee Valley region are primarily rural and generally fall below national norms in the number of high school graduates. Also, the illiteracy level of the adult population is higher than that of the Nation as a whole and continues to grow. The National Rural Development Workshops have found that rural unemployment and poverty levels are about 31 percent higher than in urban areas. There is a slower cyclical economic recovery rate in rural areas as compared to urban areas which results in a widening economic and social rural-urban gap. Dealing with physical infrastructure and creating jobs in rural areas are not enough to solve rural problems nor will it increase economic growth. To promote economic growth within the rural Tennessee Valley area, the region must offer an advantage that currently does not exist, that is a trained and skilled work force which is able to cope with the winds of change on the rural American landscape.

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"The Linkages Between Education and Training and Economic Development from the Federal Perspective"

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Introduction

The 1980's were years of economic recovery and prosperity in most urban areas. However, this was not the case in much of rural America. The rural economic crisis of the 1980's was fed by depressed conditions in export dependent industries such as agriculture, forestry, and mining. Yet, even when these industries began to recover in the mid 1980's, the rural-urban gap widened. This was due, in part, to the fact that rural problems run much deeper than agriculture and extend to inadequate infrastructure, poor schools, lack of access to quality medical services, and shortage of trained leadership to solve the problems that exist.

Rural economic conditions worsened significantly in the 1980's, at the very time that urban conditions were booming. An Economic Research Service report, prepared for the U.S. Senate, documented the magnitude of these rural problems by these selected comparisons of rural and urban areas in the late 1980's:

- Rural unemployment rates were about 31 percent higher;
- Rural per capita income averaged 25 percent lower;
- Rural poverty rates were one-third higher;
- Rural school dropout rates were higher;
- The rural population had a higher proportion of older persons, requiring higher per capita expenditures on health care;
- The rural population had a higher proportion of younger persons, requiring higher expenditures on education; and
- A slower cyclical economic recovery in rural areas resulted in a widening of the rural-urban economic and social gap.[1]

Congressional Perspective

Alabama Senator Howell Heflin has expressed a Congressional perspective on these persistent rural problems. Speaking in support of rural development legislation, he noted:

> "These rural conditions persist for many reasons not under the control of our rural people. Even though rural poverty is one-third higher than urban poverty, the rural poor are generally the working poor - due to low wages, less than full-time employment, or low skill levels. While 80 percent of waste water treatment systems not in compliance with EPA standards are in rural areas, only eight percent of EPA sewage treatment grant program funds have gone to rural communities. And, even though Federal per-capita program expenditures have been lower in rural than in urban areas, budget cuts have further reduced these Federal programs nearly 50 percent in the 1980's."[2]

Senator Heflin also expressed the Congressional perspective that clearly recognizes that rural people and communities are not shirking their responsibilities relative to rural development, when he stated:

> "Even in these economic hard times, rural people continue to support public investment in themselves and their communities. They support significant tax efforts, and devote a higher proportion of their income to sales, property, and excise taxes than do their urban and suburban neighbors. Rural people make significant investment in the education of their youth, most of whom have to leave the local rural community to find work, taking this investment with them."[3]

The Congress also recognizes that rural economic development must be supported by education and training. Both the House and Senate have passed rural development bills this session that recognize three necessary levels of education and training to support rural development efforts. These bills are S.1036, passed by the House on February 22, 1990.[4] In support of education and training, these bills include emphases on:

1. Education for community leadership;
2. Education and training for rural business entrepreneurs, and;
3. Improved education and skill levels for rural workers.

Regarding community leadership for economic development, both bills include added responsibility for the Cooperative Extension System to provide education for community leaders to assist them in community economic analysis, planning, and decision making.

Both bills also give added responsibility to Extension to provide business education and business management training to rural business operators, with the expectation that these Extension programs will be coordinated with other business education programs, such as those of the Small Business Development Centers. The House bill also specifies that Extension should provide training in rural economic development for its employees.

The House bill also contains a significant authorization for the establishment of centers for rural technology or cooperative development of new services, new products and processes, and new enterprises in rural areas.

A component in the Senate bill designed to help improve the education and skill levels of rural workers is the "Rural Star Schools Educational Opportunities Program." The purpose of this program is "to encourage and improve the use of telecommunications, computer networks, and related technologies, to provide telecommunications access by students and faculty at grade schools, high schools (including vocational education schools), and adult education centers in rural areas in order to improve educational instruction in the areas of mathematics, literacy, the sciences, computer technology, foreign languages, health sciences, and other areas of study" (Sec. 205, S.1036).

From this brief summary of a few sections of the House and Senate rural development bills, it is clear that the Congress recognizes the necessary linkages between education/training and rural economic development. While the authority of the Agriculture committees is rather limited in the area of rural education, they have creatively used their authority, and the very limited budget authority currently available for rural development, to give some strong support to rural education and training programs in support of economic development.

ES-USDA Perspective

Through its research, extension, and higher education programs the U.S. Department of Agriculture has long recognized the linkages between education/training and rural economic

development. More recently, with the issuance of the President's rural development strategy, the USDA has clearly affirmed that rural development means much more than agricultural development, and that the Department and its agencies have a clear responsibility to provide education and technical assistance in support of rural economic development.

The Cooperative Extension System's national initiative on rural revitalization specifically recognizes the linkages between education/training and rural economic development. By the nature of Extension education programs, the major emphases of the Extension Service's input to the rural revitalization initiative have been community leadership for economic development and entrepreneurship and business management education. Extension will continue to give priority emphasis to this initiative.

We in ES-USDA are also involved in a number of innovative efforts to improve rural education/training in support of rural economic development. Three of these demonstration projects, currently operating with earmarked Congressional funding, are concerned with reemployment of those displaced by the rural economic crisis, the training of rural health care professionals, and rural literacy education.

The first of these is the "Section 1440" program of the 1985 farm bill. The emphasis of this eight-state program is to help financially stressed and displaced farmers and rural families to get the assistance they need to either save their current farm or business operation or to find alternative employment. Career exploration, skills assessment, resume writing, job interview skills, alternative agricultural products, and access to education and training programs are some of the emphases of these projects.

Another project is demonstrating the use of two-way interactive video via telecommunications in providing education and training for students in nursing, medical technology, and social work. All three of these professions have worker shortages in the pilot state, and all are needed in providing health and social services essential for comprehensive rural economic development.

The third demonstration project recognizes the limits that functional illiteracy places on the economic contribution of many rural workers. This project is piloting and field testing distance learning literacy education via satellite transmission. Early indications are that functionally illiterate students can improve their reading skills by at least four grade levels after three ten-week sessions.

Summary and Conclusion

The thrust of current rural development legislation, and the ongoing focus of USDA and the Cooperative Extension System, is to help provide the education and training needed by local leaders and local entrepreneurs to enable them to bring about more effective rural economic development.

It is broadly accepted at the Federal level that rural economic development efforts must begin with local initiative and be guided by local leadership in both the public and private sectors. Less broadly accepted, however, is the recognition that it is essential for the Federal government to help provide an environment in which local efforts can be effective. Federal programs should act as a catalyst for rural growth and development through programs that improve physical infrastructure, promote business development, and help build human resource abilities.

Based on the difficulty of passing comprehensive Federal rural development legislation that includes significant authorizations for Federal funding, one

must question whether the Federal willingness to support education and training for rural economic development has kept pace with the recognition of the need to do so.

Contrary to much of the conventional wisdom, there is reason to believe that it costs as much, or more, on a per capita basis to deliver the same quality of services in rural as in urban America, due largely to extra distances and fewer economies of scale in rural areas. Where such cost differences exist, current Federal programs that provide lower payments to rural areas actually discriminate against rural America. An ultimate consequence of accepting lower quality rural services is a widening gap of economic and social opportunity for people

ENDNOTES

[1] David L. Brown, J. Norman Reid, Herman Bluestone, David A. McGranahan, and Sara M. Mazie, editors, Rural Economic Development in the 1980's: Prospects for the Future, Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture, Rural Development Research Report No. 69, September 1988.

[2] 101st United States Congress, First Session, Congressional Record, Vol. 135, No.85, p. S 7128, Washington, D.C., June 22, 1989.

[3] Ibid.

[4] The text of S.1036 appears on pp. S 10421-S 10440 of the August 15, 1989 Congressional Record; the text of H.R. 3581 appears on pp. H 1110-H 1123 of the March 27, 1990 Congressional Record.

The Role of Education in Economic Development: A Strategic Approach

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Today, rural communities are facing greater challenges and opportunities than ever before. Many rural towns must initiate strategies in the near future to preserve their already minimal economic base and enhance the economic incentives to attract and retain educated, energetic young families. Unfortunately, the dilemma is not being addressed by the leadership in many small communities.

The basis for rural revitalization is comprehensive community planning. It is strategic from the sense of assessing trends and current scenarios and tactical from the perspective of what will occur when. Perhaps, more critical than ever before, is the need to assess long term development opportunities and requisite resources needed to support and promote identified strategies. For the past thirty years, the Southeast has been able to enjoy rapid economic gains on the premise of cheap labor and cheap energy. This situation no longer exists. The region's economic advantage has dissipated. The country has advanced to an economic scenario where one region's economic gains are made at the expense of another, creating more intense economic competition. Regional and/or area economic disparity continues to escalate because areas of a state depend on declining industries such as textiles or traditional agricultural enterprises with low or negative returns on investment and resultant low wage rates. Many communities continue to market themselves as havens for low wages and an available labor force based on high levels of unemployment. They fail to realize that industry is now looking for an efficient, skilled labor force. High unemployment has now come to symbolize a largely untrained and unmotivated labor pool.

The rural communities of the Southeast must begin to redevelop their infrastructure and redefine their approach to economic development based on job growth trends, job skill requirements, perceived quality of life attributes desired by corporate leaders, and recognized successful strategies for community survival. Education will be a critical factor in all aspects of rural revitalization. Community leadership must have vision

and the ability to engage in creative thinking. The work force will require on-going flexibility due to rapid technological changes occurring in all economic sectors. The community must address the persistent problems of illiteracy and unmarketable skills of its unemployed and/or underemployed labor force. The role of education in economic development deserves in-depth analysis by all aspects of the "community."

The Community Perspective

To address the long-term needs of community growth, local leadership must adopt a visionary approach to development. An overall spirit of cooperation (coming together of all community elements to work on common goals) versus cooperation (where one group takes charge and dominates the planning/control aspect of development) must occur. The visionary forum of local leadership must identify and debate the social and economic changes impacting the community. They must assess how current decision making will affect long term strategies and current problems. To provide an illustration, in 1980, Macon County, Georgia opted to attract a large manufacturing facility into the county. Prior to beginning operations of the manufacturing plant, unemployment had vacillated around 14%. One year after opening, unemployment was still in the vicinity of 14%. Obviously, the effort and expense incurred in bringing this major industry to the county had little impact on local unemployment rates. The unemployed labor force in the county did not have the requisite skills needed by the industry. From a strategic assessment, several different scenarios could be surmised:

1) Community leaders were not aware of job skills of unemployed workers.

2) Community leaders did not understand job skill requirements of new jobs associated with industry.

3) Community leaders sought out industry to enhance regional draw of workers into the community.

4) Community leaders and local education leadership failed to communicate with each other on job training needs.

It could be said that the county had failed to realize the full benefit of this major industrial attraction because they had not had an effective human resource development policy in operation. Human resource development agendas, designed to prepare people to enter the labor force and equip them for occupational changes if they are displaced, are crucial for economic enhancement of rural communities.

The community may also take an active role in marketing vocational training opportunities to both unemployed and underemployed workers. Targeting students for skills development based on job opportunities stands to help both the student and the employer. Oftentimes job availability has no relationship to number of students enrolled in vocational training specialties. A recent review of student enrollment at an area Vo-Tech school showed a surplus of graduates in computer related coursework, relatively few job openings, and low starting wages. In the same job market there was a dearth of mechanics and sheet metal workers, but very few students enrolled in this curriculum at the Vo-Tech schools. Pay scales, for these vocations, were substantially above average for starting salaries in most other vocations. An opportunity exists for the community to assist in the marketing of vo-tech training opportunities.

In an environment where competitiveness and excellence depend on people, the community must constantly assess the on-going efficiency and effectiveness of its educational

infrastructure. The role is much broader than the mission of the local Board of Education, the Chamber of Commerce, or other elected bodies.

The Educational Perspective

The real objective of education is capacity building within the local population. The major question is, "Are we willing to take up the challenge to make our local educational network have real impact?" Our leadership must seek educational parity with the rest of the country (world) through educational strategy. In so doing, we must seek to answer a number of questions: How many functionally illiterate people do we have in our community? What are the problems within the educational system?

- Dropouts?
- Pupil disappearance rates?
- Outdated curriculum?
- Identifying who should receive what type of education? Lack of incentives among educators?
- Budget constraints?
- Need for more comprehensive counseling?
- Institutional rigidity?

Perhaps we should begin by reassessing the overall mission of the local educational network. Perhaps we need to shift our focus to meeting the needs of people. In assessing the educational mission of various school systems, we see quite a diversity of objectives. I have classified these into four major categories:

1. Instructional/Teaching/Learning
2. Social
3. Community
4. Economic

1) Instructional - Teaching - Learning Objectives - This is the traditional approach to education. It involves the traditional student/teacher relationship. Progress is quantifiable through traditional measures such as criteria-referenced tests and norm-referenced tests. We can determine how well our students are doing compared to students in other systems or the level of achievement (3rd grade, 4th grade, etc.). However, this traditional approach doesn't appear to have reduced poverty levels or cycles or made significant inroads into our unemployable population. Some systems have actually experienced substantial declines in test scores in recent years in spite of our perceived advances in education. Clarke County, Georgia, has actually had a decline in average SAT scores of over 40 points during the past four years.

2) Social Objectives - Many school systems have been so overwhelmed with social objectives (integration, mainstreaming, abused children) that they have been unable to pursue the major objectives of skill development and general education.

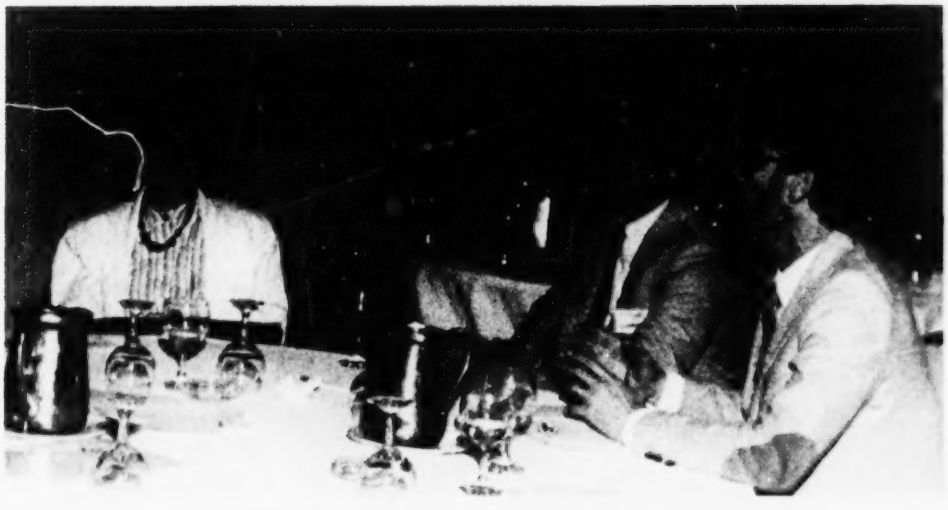
3) Community Objectives - The community must take a very global approach to education. It must guard that the educational hierarchy does not become self-perpetuating and blinded by an inward thinking staff. In community perception surveys recently administered in Georgia, a number of observations have been made. First, the general public sees a much broader role for the public school system than basic coursework. People expressed concern with lack of instruction and challenge in creative thinking. They were alarmed at the lack of appreciation developed in the educational program for the fine arts. People expressed a need for a heightened awareness of a healthy work ethic among students. They were alarmed with the lack of commitment among school administrators for the vocational education programs. People sensed a need for greater utilization of school facilities within the community. Frustration was expressed with the inadequacy and ineptness of adult education and literacy programs. Overall, the general population

presented a much more pragmatic approach to education than did school administrators.

Community attitudes promulgated a strong bias to job skills enhancement and the marketing of courses of study based on job trend analysis. Individual focus group sessions have demonstrated a strong preference for school systems to provide non-threatening ways for non-traditional students to get back in the educational networks. Non-traditional would include rural housewives wanting to enter the job market, part-time farmers seeking off-farm employment, and welfare mothers enticed to develop job skills and work attitudes while receiving government transfer compensation. Most school systems approach their educational agenda from the perspective of three diploma programs: 1) college preparatory, 2) vocational, and 3) general. However, in reality most of the curriculum development and resource allocation is manifested in the college preparatory focus. For the purpose of community impact, I feel that the educational agenda could be better approached by determining the roles that each of the following educational components could serve in enhancing the human development opportunities of community residents. From a programmatic perspective, the educational agenda should be reviewed in terms of: 1) preschool, 2) elementary, 3) secondary, 4) vocational, 5) post secondary, 6) adult continuing education, and 7) adult literacy. The elementary and secondary components have been well developed but the other components could very likely demand a totally new thrust, program design, staffing patterns, and curriculum orientation. For instance, early on (8th grade), students may need extensive testing, evaluation, and counseling to determine aptitudes with concurrent assignment to the most appropriate course of study. This decision-making scenario may bring up difficult social and ethical questions. However, the efficient operation of the educational program requires that hard and exact decisions be made.

Summary

No doubt, within our rural communities seeking to grow economically, significant restructuring of our educational delivery system will be required. Much debate will occur relative to public policy issues. We are now facing a situation where our progress in public education has stalled or even taken a step backward. Considering the fact that 40 percent of our future work force entrants will come from minority populations and the fact that the majority of all new jobs will require post-secondary education, we must begin to reassess the role of education in the community. Our traditional school disappearance rates (dropouts between grades) of 30 percent plus and declining test scores will not be an acceptable alternative for future development. Unless we can adapt and move our educational delivery forward, we cannot survive the reckoning that is coming in our global marketplace.



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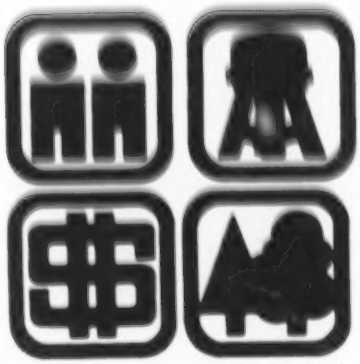

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